

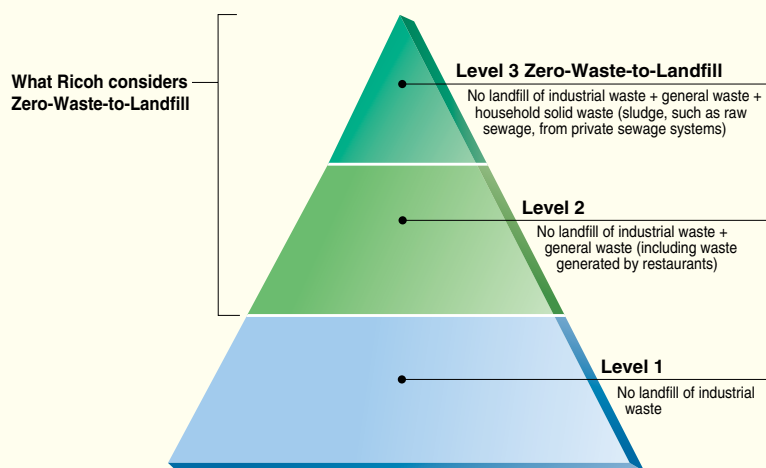
We promote Zero-Waste-to-Landfill activities worldwide while reducing waste and costs.

■ Concept

The Ricoh Group is globally working to maximize resource productivity, primarily limiting the production of waste, reducing water consumption, and reducing paper consumption. The Ricoh Group promotes Zero-Waste-to-Landfill* activities as a part of its sustainable environmental management system by efficiently using resources, improving production efficiency, reducing waste disposal costs, and improving corporate quality by promoting employee awareness of environmental conservation. In fiscal 2001, the Ricoh Group achieved Zero-Waste-to-Landfill at its major global production sites. These activities are now promoted at non-production sites and sales subsidiaries worldwide. In addition, an audit system for waste disposal service providers was introduced in Japan, aiming to upgrade and expand proper waste disposal.

* Zero-Waste-to-Landfill means a 100% resource recovery rate and no waste used as landfill.

Definition of Zero-Waste-to-Landfill Levels by the Ricoh Group



■ Targets for Fiscal 2007

- ◎ Reduce generated waste by at least 3% (Ricoch and manufacturing subsidiaries in and outside of Japan, compared to fiscal 2000 figures).
- ◎ Reduce generated waste by the ratio calculated by multiplying the number of years from the base fiscal year to fiscal 2007 by the yearly rate (2%) (non-manufacturing subsidiaries in Japan; the base fiscal year is set at each company).
- ◎ Improve the waste recycling rate to at least 95% (non-manufacturing subsidiaries in Japan).
- ◎ Reduce water consumption to a level that is below the results of fiscal 2000 (Ricoch production sites and manufacturing subsidiaries in and outside of Japan).
- ◎ Reduce paper consumption by at least 10% (Ricoch manufacturing and non-manufacturing subsidiaries in Japan, and manufacturing subsidiaries outside of Japan, compared to fiscal 2002 figures).

■ Review of Fiscal 2007

Waste volume generated at production sites increased by 3.9% from fiscal 2000 levels, reflecting an increase in production (see graph ①). At non-production sites in Japan, the resource recovery rate is steadily improving while the volume of generated waste is being reduced (see table ④). In terms of water consumption, our continued efforts have brought about a 15.7% reduction over the fiscal 2000 level (see graph ②).

■ Future Activities

In reducing waste*, priority will be given to areas for which emissions account for large proportions or are expected to increase. To be specific, particular efforts will be made for reducing waste of resources in sectors that are expected to generate more waste reflecting business growth (thermal media business and polymerized toner production) and packaging materials (packaging materials used in production for transportation between overseas sites) that increased due to global production activities. Ricoh will also continue to carry out conventional resource-saving activities.

* Until fiscal 2007, Ricoh classed all materials generated as by-products of business activities as "waste," including valuables, general waste, and industrial waste. From fiscal 2008 on, however, these by-products will be classified as "discharged matter," and only general waste and industrial waste will be called "waste."

Segment Environmental Accounting of Recycling Activities at Business Sites
(The Entire Ricoh Group)

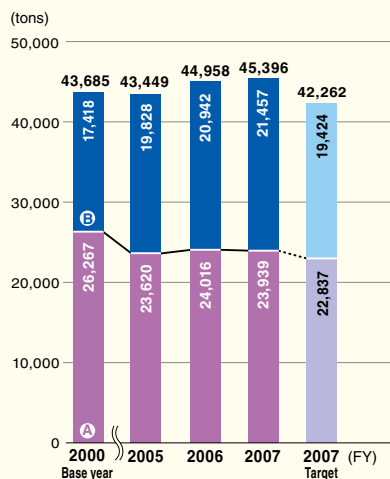
Costs			Effects			
Item	Main cost	Costs	Economic benefits		Effect on environment conservation	
			Items	Benefits	Reduction item	Amount
Business area cost	Resource circulation cost	¥1,425.9 million	Reduction in waste disposal expenses	¥12.4 million	Final amount of waste disposed (Reduction amount)	10.7 tons
			Proceeds from sale of valuables	¥639.9 million		

<The Entire Ricoh Group>

Total Amount of Waste Generated

① The Ricoh Group (Production)

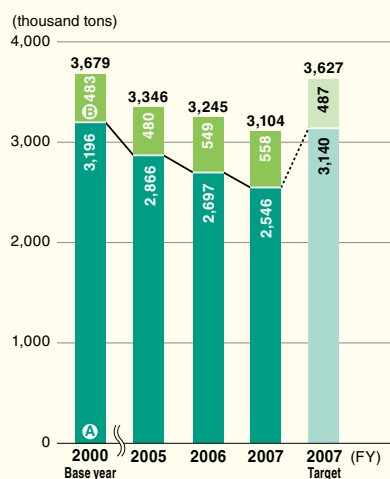
● Japan ● Outside Japan



Volume of Industrial Water Used

② The Ricoh Group (Production)

● Japan ● Outside Japan

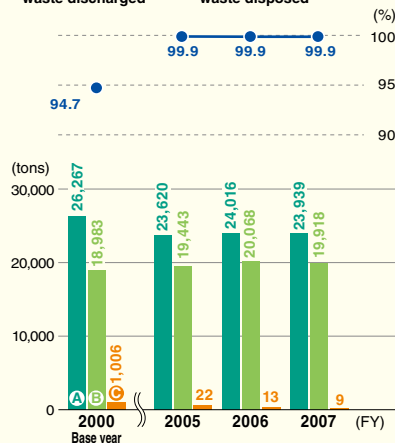


<Japan>

Resource Recovery Rate of Waste/Total Amount of Waste Generated/Total Amount of Waste Discharged/Final Amount of Waste Disposed

③ The Ricoh Group (Production)

● Resource recovery rate of waste ● Total amount of waste generated
● Total amount of waste discharged ● Final amount of waste disposed



Resource recovery rate of waste:
Amount of resource recovered/amount discharged
Total amount of waste generated:
Amount of waste generated at business sites
Total amount of waste discharged:
Amount of waste discharged outside business sites
(including the waste undergoing disposal processing inside the plants)
Final amount of waste disposed:
Amount of discharged waste used in landfills and incinerated

④ The Ricoh Group (Non-Production)

	Resource recovery rate of waste (%)	Total amount of waste discharged (tons)	Final amount of waste disposed (tons)
Sales subsidiaries	95.6	1,536	68
Maintenance and services (Ricoh Technosystems)	96.9	666	21
Logistics (Ricoh Logistics System)	99.5	3,166	14
Finance (Ricoh Leasing)	96.8	56	2
General services (Ricoh San-ai Service)	99.5	23.9	0.1

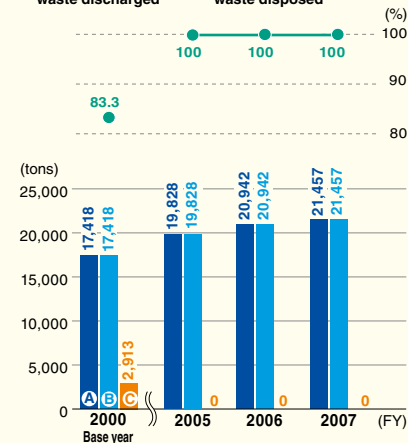
* At non-manufacturing subsidiaries, the amount of waste generated and the amount of waste discharged are the same, because waste is not processed at the business site. Therefore, only the total amount of waste discharged is listed.

<Outside Japan>

Resource Recovery Rate of Waste/Total Amount of Waste Generated/Total Amount of Waste Discharged/Final Amount of Waste Disposed

⑤ The Ricoh Group (Production)

● Resource recovery rate of waste ● Total amount of waste generated
● Total amount of waste discharged ● Final amount of waste disposed



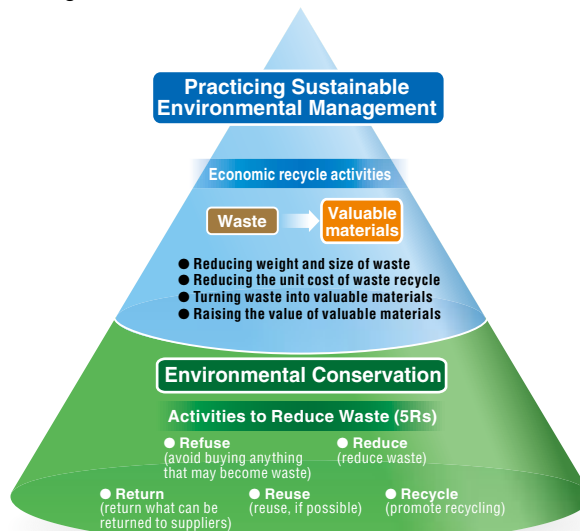
* Data on Ricoh Printing Systems, Shanghai Ricoh Digital Equipment, and Yamanashi Electronics are not included in graphs ① through ⑤. Waste generated from the manufacturing of polymerized toner at Ricoh Numazu Plant is not included either. Data that include waste from these sources are shown on [Page 79](#).

Developing and Raising the Level of Zero-Waste-to-Landfill Activities

<Ricoh Group (Global)>

Zero-Waste-to-Landfill activities are carried out at Ricoh's sites all over the world. The Ricoh Group defines Zero-Waste-to-Landfill as a 100% resource recovery rate, or no waste used as landfill. Zero-Waste-to-Landfill was achieved at its major production sites in Japan in March 2001 and at production sites outside of Japan in March 2002. Thus, the Group achieved Zero-Waste-to-Landfill at all its major global production sites. Since then, these activities have been promoted at non-production sites worldwide and at companies that have newly joined the Group. At sites that have already achieved Zero-Waste-to-Landfill, efforts are being made to raise the level of Zero-Waste-to-Landfill, including controlling the volume generated and the conversion of waste into useful materials, under the concepts of sustainable environmental management.

Concepts in Raising the Level of Zero-Waste-to-Landfill Activities



Efforts for Reducing Packaging Waste in Transportation between Global Production Sites

<Ricoh Gotemba Plant (Japan)/ Ricoh Asia Industry (Shenzhen) Ltd. (China)>

The Ricoh Group is actively making efforts to reduce packaging waste, because the Ricoh Group has a global manufacturing system and packaging materials used for transportation between production sites are increasing. The parts and half-finished goods transported from Ricoh Asia Industry (Shenzhen) Ltd. (RAI) to Ricoh Gotemba Plant are placed in corrugated cardboard, which is then carried in containers. Waste materials are recycled

as corrugated cardboard, but recycling does cause some environmental impact and costs, which makes it necessary to reduce resource use. In light of these, returnable racks that can be used repetitively were introduced in May 2007 for the transportation of some parts, including scanner units. At the same time as the introduction of returnable racks, efforts were also made to improve the load-carrying efficiency, which led to the simultaneous realization of reduced packaging material waste and reduced costs. As a result, CO₂ emissions are reduced by about 270 tons and costs by ¥23 million on an annual basis.

costs, causing a heavy cost burden. Thanks to the new technology, paste solder can be heated on the spot and separated cleanly into metal solder and solvent, which are collected and used in other processes. The original technology including the separation method and automatic control was adopted in the newly installed facility, which realizes steady treatment of solder. As a result, no more solder is disposed of, which has reduced both purchasing and disposal costs. In fiscal 2007, RME started recycling paste solder collected from other business sites of the Group (Ricoh Hatano Plant, Tohoku Ricoh Co., Ltd., and Ricoh Keiki Co., Ltd.) as well.

Recycling Solder Used in the Manufacturing Process for Printed Circuit Boards

<Ricoh Microelectronics Co., Ltd. (Japan)>

Ricoh Microelectronics Co., Ltd. (RME) collects and reuses unused paste solder generated during the manufacturing process for printed circuit boards, using a waste solder recycling facility developed in-house. The use of paste solder in manufacturing printed circuit boards was under strict control in order to maintain the quality of the solder, and paste solder exceeding the time limit had to be thrown away. The introduction of lead-free products, however, led to higher solder



Waste solder recycling facility



Transportation by returnable rack

Auditing Waste Disposal Service Provider

<Ricoh (Japan)>

Ricoh has been making efforts to enhance the audit of waste disposal service providers since 2005, so that waste generated by Ricoh will be disposed of properly and appropriately by reliable partners. In the past, because each business site audited these service providers individually, evaluations were sometimes inconsistent due to differences in the knowledge and experience of the auditors. To address these issues, Ricoh 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 then audited all the service providers that have business relations with the Group's production sites. Any service providers where any incongruity was detected were given directions and requested to make improvements, and after a few days, a confirmation audit was completed. In fiscal 2007, service providers handling waste from non-production sites and those which newly started handling waste from production sites were audited. In and after fiscal 2008, Ricoh will try to raise the audit level by improving the efficiency of audits and promoting an auditor rotation system and follow-up educa-

tion. Thus, efforts will be made to ensure even more reliable and efficient waste disposal.



Auditing of a waste disposal service provider



INTERVIEW

Oil Plant Natori Co., Ltd.



Taking advantage of the Ricoh Group's audit, we strove to raise our operations to a greater degree.

Offering training opportunities to staff members of partner companies

Our waste disposal operation was audited by the Ricoh Group for the first time in June 2006. Our company, which has been engaged mainly in intermediate processing and recycling of waste oil and fluids, has disposed of waste fluids generated by the Ricoh Group for more than ten years. We are audited and visited by more than 100 companies every year, including companies generating waste. We found that the audit by the Ricoh Group covered a greater number of items and was at a higher level than the examination for ISO14001. We sometimes felt it was severe, but we thank them very much now, because they correctly pointed out problems that we had not recognized. Such problems included the checking of whether the companies collecting and transporting waste always carried copies of certification in their vehicles as well as the confirmation of the term of validity of certificates. The section in charge of our company immediately examined the issue and started operating a confirmation flow. We were also offered advice on the necessity of implementing emergency action training. In response, we conducted training simulating leakage and ignition in March, inviting 10 people from two companies collecting and transporting waste. Our company handles an average of 1,700 tons of waste every month, of which 20 to 30% is brought in by vehicles of partner companies. We believe that employee training is important and have made particular efforts for such training since we acquired ISO certification. Ricoh kindly pointed out that we should offer training opportunities to the employees of partner companies as well, which was a blind spot for us. We immediately put it into practice.



Mr. Masami Kusaka
Section Chief,
Marketing Department

Mr. Yoichi Takeda
President & CEO

Mr. Shuichi Saito
Marketing
Department

Addressing global environment issues in cooperation with stakeholders

Needs held by society towards waste disposal service providers like us are changing with the times. They changed from "reclamation and incineration" to "recycling," and then to "recycling plus safety and security." "The prevention of global warming" has been added, and we are now required to take concrete action to reduce CO₂ through recycling. Our company is currently establishing a scheme to report CO₂ emissions reduced in waste treatment to the companies generating waste, on a monthly basis, while recycling waste cooking oil as fuel for busses on regular routes by applying our waste oil treatment technology. In addition, we are engaged in efforts that will lead to the reduction of environmental impact in society, supporting people at a neighboring welfare institution in their use of waste oil to make candles. We intend to make active efforts to have even more profound communications with our important stakeholders, namely the companies generating waste, partner companies and the community, and develop the trust relationship for safety even stronger, while addressing global environment issues.