The Ricoh Group takes the lead in establishing a resource-recirculating society by further promoting Zero-Waste-to-Landfill.

The Ricoh Group promotes Zero-Waste-to-Landfill activities as a part of its environmental management system by efficiently using resources—particularly water, improving the efficiency of production, reducing waste disposal costs, and improving corporate quality by promoting employee awareness of environmental conservation. These activities are also carried out at non-manufacturing sites. Based on the excellent results achieved in the Zero-Waste-to-Landfill effort, the Ricoh Group is actively working to establish a resource-recirculating society through local community efforts.

* See page 56 for Zero-Waste-to-Landfill at non-manufacturing sites.

Promoting Zero-Waste-to-Landfill

Zero-Waste-to-Landfill cannot be achieved through waste recycling alone. Regardless of the intensity of the recycling effort, the massive amount of materials produced inhibits effective environmental impact reduction. The Ricoh Group therefore promotes Zero-Waste-to-Landfill activities, primarily by limiting the production of waste through the "5Rs" described below.

The Ricoh Group's 5Rs

1. **Refuse:** Avoid buying anything that may become waste.
2. **Return:** Return what can be returned to suppliers.
3. **Reduce:** Reduce waste.
4. **Reuse:** Reuse products.
5. **Recycle:** Recycle products.

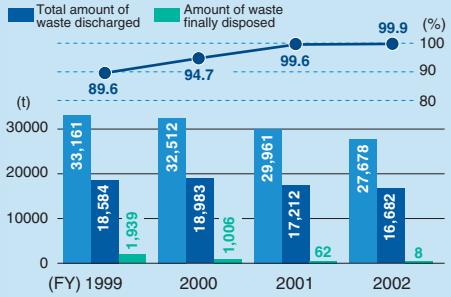
Zero-Waste-to-Landfill by the Ricoh Group

Ricoh classifies zero waste (100% resource recovery rate and no waste used as landfill) into three levels. Although zero waste is roughly defined as no industrial waste being generated (level 1), the Ricoh Group aims at also eliminating general waste (level 2) and household solid waste, such as sludge (e.g., raw sewage), from private sewage systems (level 3). We regard cases in which waste is not utilized as an energy resource and simply incinerated as mere disposal of waste. The Ricoh Group aims at achieving complete resource recycling by reducing, reusing, and recycling resources, as well as engaging in thermal recovery of waste.

Waste-Related Data in Japan

Resource Recovery Rate of Waste/Total Amount of Waste Generated/Total Amount of Waste Discharged/Amount of Waste Finally Disposed by Ricoh and Ricoh Group Manufacturing Subsidiaries

Reviewed by BVQI (21)



Resource Recovery Rate of Waste/Total Amount of Waste Discharged/Amount of Waste Finally Disposed by Ricoh Group Nonmanufacturing Subsidiaries

Reviewed by BVQI (22)

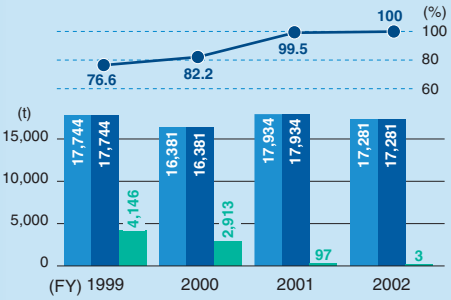
	Resource Recovery Rate of Waste (%)	Total Amount of Waste Discharged (t)	Amount of Waste Finally Disposed (t)
Maintenance and Services (Ricoh Technosystems)	93.8	1,945	120
Logistics (Ricoh Logistics System)	89.6	5,428	563
Finance (Ricoh Lease)	73.1	52	13

* At nonmanufacturing 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.

Waste-Related Data outside Japan

Resource Recovery Rate of Waste/Total Amount of Waste Generated/Total Amount of Waste Discharged/Amount of Waste Finally Disposed by the Ricoh Group

Reviewed by BVQI (23)

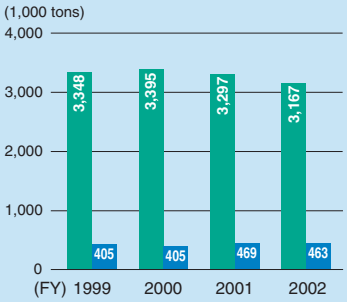


Resource recovery rate of waste: Resource amount recovered/amount discharged
Total amount of waste generated: Amount of waste generated at business sites
Total amount of waste discharged: Amount of waste discharged outside business sites (Including the waste undergoing disposal processing inside the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

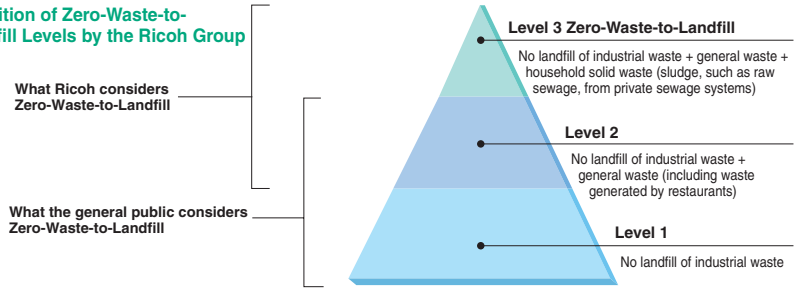
Volume of Industrial Water Used by the Ricoh Group Worldwide

Volume of Industrial Water Used by the Ricoh Group

Reviewed by BVQI (24)



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



Japan

"Welcome" Recycling

Ricoh Elemex Corporation's Okazaki Plant conducts a "welcome recycling," campaign in which waste produced at the company is reused. As a part of this effort, the company has produced buffers, binders, and toilet paper from used paper; soap from used edible oil from the cafeteria; and non-fired bricks from purified plating sludge. The bricks are used for sidewalks at the plant site.

Collection of Information through PDAs

Ricoh's Atsugi Plant collects data on 3,000 items, including power meters, water meters, and the status of equipment in the plant. Work routines were streamlined through the use of personal digital assistants (PDAs), which cut paper consumption (previously 500 sheets per week) and reduced the number of data entries required.

Hot Runners for Injection Molding Equipment

Ricoh's Atsugi Plant replaced the runners of the 350-ton injection molding equipment (which are used to align the position of materials in molds) with hot runners. This resulted in a reduced discharge of waste plastic and lower materials costs. The old runners were crushed for recycling, but some parts had to be disposed of due to their composition. Hot runners, by contrast, produce no waste because parts can easily be broken down and reused. From September 2002 through March 2003, the plant reduced waste plastic by 19.2 tons and costs by ¥21 million.

Toner Recycling

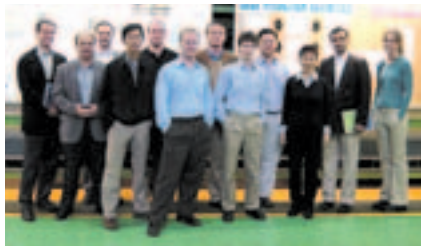
In fiscal 2002, Ricoh worked with Shinko Flex Inc. to develop a method to use waste from the toner production process to make flux for steelmaking (patent pending). The flux was sold to iron mills, creating a savings of ¥6 million annually in toner waste disposal costs at Ricoh's Numazu and Fukui Plants. An experimental project aimed at collecting toner from used cartridges is underway at recycling centers* in Japan.

* See page 60.

The Americas

Promoting Zero-Waste-to-Landfill in U.S. Communities

Ricoh Electronics, Inc., (REI) a U.S. manufacturing subsidiary, achieved Zero-Waste-to-Landfill in fiscal 2000. Its plant in California regularly engages in activities to raise awareness of Zero-Waste-to-Landfill in the local community. In April 2002, REI worked with a local environmental business support center to hold a zero-waste seminar. At the seminar, it talked about its own efforts to achieve Zero-Waste-to-Landfill with more than 20 participants, including local businesses, citizen organizations, representatives from local assemblies, and the California Integrated Waste Management Board. The plant also invites MBA students from the University of California, Irvine (UCI) Graduate School of Management, and students from the University of California, Los Angeles (UCLA) to visit the plant.



UCLA students who participated in the Zero-Waste-to-Landfill/waste reduction seminar

China

Shenzhen: Progress in Zero-Waste-to-Landfill

Ricoh Asia Industry (Shenzhen) Ltd. (RAI), which achieved Zero-Waste-to-Landfill in fiscal 2001, worked to promote awareness of Zero-Waste-to-Landfill by inviting 117 visitors from 17 companies to tour its zero-waste plant in fiscal 2001. In November 2002, more than 1,600 employees picked up garbage in a wide area, both inside and outside the plant site, further raising employees' awareness of environmental conservation issues. Employees also volunteered to clean up downtown Shenzhen. Through these environmental conservation activities,* RAI was certified as the first green company in Shenzhen.

* See page 48.

More than 1,600 employees participate in an extensive garbage collection project.

Cleaning up downtown Shenzhen.

Costs and Effects of Hot Runners for Injection Molding (Segment Environmental Accounting)

Costs			Effects			
			Economic benefits		Effect on environmental conservation	
Item	Main cost	Amount	Reduction	Amount	Reduction	Amount
Business area cost	Design and production cost	¥2.56 million	Waste disposal expenses	¥1.86 million	Amount of waste discharged	19.2 (t)
			Material cost, etc.	¥21.77 million		

* Effects are calculated for seven months, starting from September 2002.