



Reducing the Environmental Impact of Business Activities

3R Activities in Business

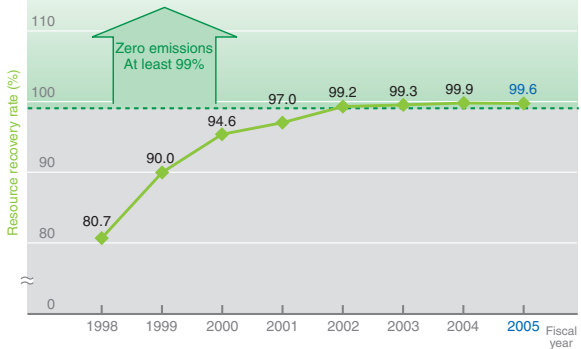
To ease environmental impacts, the Oki group pursues 3R activities. The production plants are engaging in zero waste emission activities to minimize the processing of waste in landfills, by promoting the control of waste generation and recycling. They also strive to use water resources in an efficient way. Our offices are also active, mainly reducing copying paper.

Reduction and Appropriate Processing of Waste

● Improvement of the Resource Recovery Rate (Zero Emissions)

Since the first establishment of a goal for waste reduction in 1993, the entire Oki group has been working on activities to cut waste. In fiscal 1996, the Second Waste Reduction Plan was established, and in fiscal 1999, the resource recovery rate*1) improved to as much as 90% on average in each district. Since fiscal 2000, our major production sites have been working on efforts for zero emissions*2). For issues that are common to each site, we aimed to share know-how, and for issues that are specific to individual production plants, such as the treatment of industrial waste, the plants have been proceeding with individual efforts. Thanks to these efforts, the major production sites of the Oki group in Japan achieved zero emissions in fiscal 2002, two years ahead of schedule. In fiscal 2005, two additional sites achieved zero emissions: Oki Communications Systems Co., Ltd., a company engaged in the development and production business for telecommunications network system equipment, and Oki (UK) Ltd., an overseas production plant of Oki Data Corporation. We will continue to focus our efforts on group companies, including those overseas, in addition to our ongoing efforts.

● Transition of the Resource Recovery Rate (Major Production Sites of the Oki Group)



*1) Resource recovery rate: Quantity of recovered resources / (quantity of recovered resources + quantity of finally processed waste) x 100
 *2) Zero emission: Defined by the Oki group as a resource recovery rate of more than 99% for normal waste and industrial waste.

◆ Examples for Zero-Emissions Efforts

Work suits that become unnecessary at the plants are recycled into new work suits. The used work suits are turned into fiber with a new raw material recycling system provided by Teijin Fibers Ltd., then recycled into new work suits in a textile plant and returned to our plants. (currently implemented at some of our plants since April 2001)



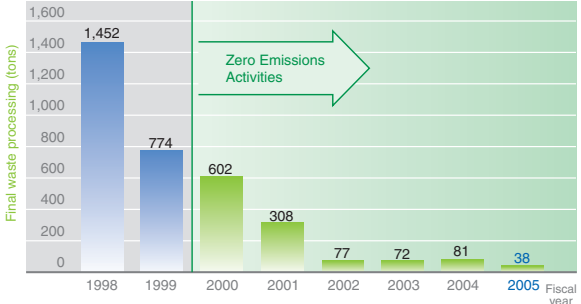
● Sites that Achieved Zero Emissions

Fiscal Year of Achievement	Fiscal 2001	Fiscal 2002	Fiscal 2004	Fiscal 2005
Site	<ul style="list-style-type: none"> Miyazaki Oki Electric Co., Ltd. Nagano Oki Electric Co., Ltd. Honjo district Miyagi Oki Electric Co., Ltd. Oki Data Corporation (Fukushima district) 	<ul style="list-style-type: none"> Hachioji district Takasaki district Tomioka district Numazu district 	<ul style="list-style-type: none"> Oki Power Tech Co., Ltd. 	<ul style="list-style-type: none"> Oki Communication Systems Co., Ltd. Oki (UK) Ltd.

● Results for Finally Processed Waste

The total quantity of finally processed waste stemming from the industrial waste emitted from production plants, and from the normal waste emitted from offices, etc. was 38 tons in fiscal 2005. Compared to the waste of fiscal 2004, this is a reduction of 43 tons. Compared to 1998, finally processed waste was cut by 97%.

● Transition of Finally Processed Waste Quantities (Major Production Sites of the Oki Group)





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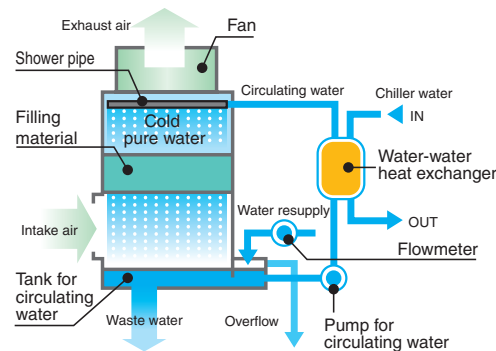
Chemical Elimination and Cooling Equipment

Miyagi Oki Electric Co., Ltd. has installed the chemical elimination and cooling equipment “De-chemi Cooler^{®*1)}” to enhance the elimination of ion contaminants in the air of clean rooms for the photolithography process. The equipment eliminates contaminants such as ammonia from clean rooms with a shower of cold water. There are no consumables such as chemical filters^{*2)}, and in addition to this, the effect of eliminating the contaminants is semi-permanent. Compared with equipment using conventional chemical filters, we realized a reduction of environmental impact corresponding to 62 tons of CO₂ per year (72%).

*1) De-chemi Cooler[®]: A registered trademark of Taikisha Ltd.

*2) Chemical filter: a filter that eliminates chemical molecular contaminants in clean rooms.

Chemical Elimination and Cooling Equipment



Semiconductor Plants: Examples for Resource Recovery of Waste

Waste Category	Type of Waste	Usage of Recovered Resources
Waste oil	Acetone	Recycling and reuse or conversion into fuel
	Ethanol	Recycling and reuse or conversion into fuel
	IPA	Conversion into fuel
Waste acids	Sulfuric acid	Recycling and reuse
	Phosphoric acid	Conversion into raw material for fertilizers
	Etching solution	Recovery of molten metal
Waste alkalis	Developer	Conversion into auxiliary fuel
Sludge	Developer	Conversion into fuel
	Inorganic sludge	Conversion into raw material for cement
	Organic sludge	Conversion into raw material for fertilizers

Recovering and Recycling Copper and Other Material in Drainage

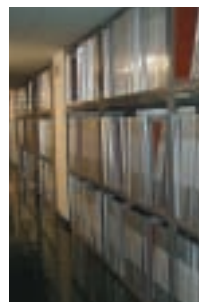
Oki Printed Circuits Co., Ltd. is recovering and recycling copper and palladium contained in the acid drainage emitted in the manufacturing process. Facilities for the treatment of acid drainage internally treat acid drainage with original methods using ferric chloride and activated carbon. Thanks to the installation of this facility, the quantity of acid drainage given to contractors for treatment, which used to be about 2,000 tons, was cut to zero. We are also selling and recycling sludge generated when dehydrating acid drainage as raw material for copper and palladium.



Equipment to treat acid drainage

Direct Symbol Mark Printing Line for Boards

To print characters, etc. onto electronic circuit boards, Oki Printed Circuits, Co., Ltd. employs direct symbol mark board printing lines that do not use conventional screens or cleaning agents. With conventional printing using screens, we consumed large quantities of ink, cleaning agents and other chemical substances, and we also had to create a screen for each board. Direct printing uses inkjet technology to print symbol marks for electronic parts, or circuit numbers, etc. directly onto electronic circuit boards. Since screens became unnecessary, we were able to cut waste of plastic film and to reduce the emulsion, cleaning agent and other chemical substances that we use in the process.



Now superfluous: screens



Direct symbol mark printing line for boards



Reducing the Environmental Impact of Business Activities

●Reduction of Waste Solder

Oki Data Corporation installed equipment to collect the dross (oxidized solder) of the solder used in the flow soldering equipment at the plant for board assembly, in an effort to reduce the quantities of waste solder.



Equipment to collect dross

●Resource Recovery of Stretch Film Used to Stabilize Cargo Piles

Oki Data Corporation is working to recycle used stretch film. Stretch film is wrapped around piles of cartons containing products before shipment, to prevent them from collapsing during the transport on the premises. When the product is shipped, the film is disposed of. Thanks to thorough waste separation, we recycle 3.8 tons of film per year.



Separated stretch film

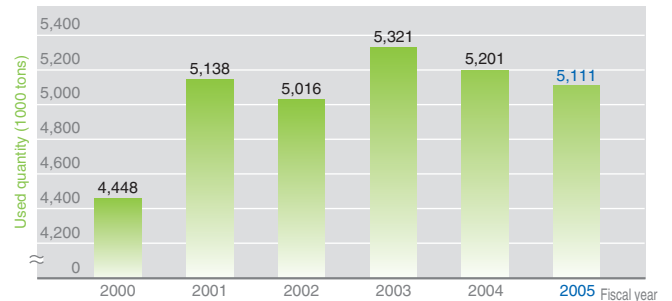
Efficient Use of Water Resources

To use water resources more efficiently, we are aggressively promoting the recycling of water within our production plants. Especially the semiconductor manufacturing process uses large quantities of water, so that we built closed systems for super-pure water from the start. The recovery rate of water has reached a level of more than 95%. Other efforts include the reuse of water with the introduction of freshwater treatment equipment for waste fluids of wafer cutting water.



Freshwater treatment equipment for waste fluids of wafer cutting water

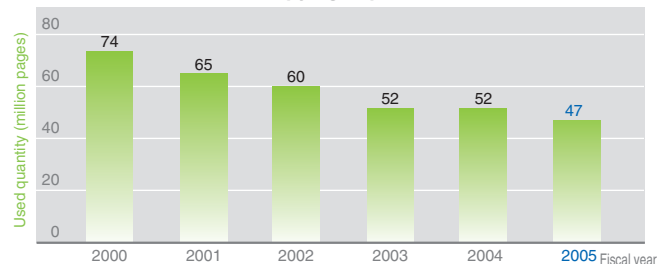
●Transition in Water Use



Efficient Use of Paper Resources

The offices (clerical sections) are working to protect forest resources through green purchasing of office articles, or activities to reduce paper used for copying. Particularly to cut the use of copying paper, they work taking advantage of networks, for example, through electronic authorization of documents, or shifting to electronic data interchange (EDI) with business partners. In fiscal 2005, we were able to cut our paper use by 50,000 pages compared to fiscal 2004. For copying paper intended for in-house use, catalogs, business cards, and toilet paper, etc., we further conduct green purchasing in the whole Oki group, and use recycled paper with a high content of recycled material.

●Transition in the Use of Copying Paper



●Examples for Other Efforts

The following are examples of other efforts we have been working on.

- ◆ Introduction of waste plastic solidification equipment
- ◆ Conversion of PVC into fuel
- ◆ Simplified packaging for delivered parts and materials
- ◆ Thorough separation through JIT
- ◆ Making solder with a longer life
- ◆ Installation of equipment to compress polystyrene foam
- ◆ Reuse of cases for electronic parts
- ◆ Revision of plastic waste separation methods
- ◆ Recycling of solder board chaff
- ◆ Reuse of packaging and cushioning material
- ◆ Installation of raw garbage processors
- ◆ Recycling of work suits and gloves into gloves