

Consideration for the Environment

In order to achieve the OKI Group Environmental Vision 2020 (See Page 10) that outlines the directions of the group's environmental activities, we coordinate and implement environmental management systems across the entire group that underpin our environmental management commitment. We actively promote the continued reduction of environmental impact through our products and business activities.



Logo for the OKI Group's environmental activities

Environmental Contribution through Products

70% Reduction of Power Consumption in Automated Teller Machine (ATM)

The main requirements for ATMs used to be quiet, fast and troubleproof operation. As customers have become increasingly environmentally conscious since the enforcement of the Revised Energy Saving Act, there has been a growing need for ATMs with low power consumption. In order to meet this need, OKI has tried to reduce power consumption of the banknote handling module within its ATM system, and achieved a total of 70% reduction of power consumption in the standby and transaction modes.

● Shift to the Power Saving Mode Immediately After Each Transaction

The entire banknote handling module of the conventional version of our ATM is always turned on to allow a prompt return from standby mode. The machine goes into power

saving mode if no one uses it for a certain period of time, and the power is disconnected to some parts of the module. The new ATM is designed to go into power saving mode immediately after each transaction.

● Reduction of Power Consumption in Power Saving Mode

In order to further save power in power saving mode, we increased the number of parts to be disconnected in the mode to include the banknote recognition sensors and others.

● Development of New Control Technology for Banknote Recognition Sensors

Since high precision and quality is asked for sensors, it usually takes a certain period of time for a sensor to secure stable operation after it is activated. We developed a new control technology to significantly reduce this time from activation to stable operation. The technology has allowed our ATM to promptly return from power saving mode.

● Minimization of the Length of Banknote Conveyance Route

In order to save power consumed for conveying banknotes, we minimized the length of the banknotes conveyance route. The conventional conveyance route had to be complex to deal with three types of transactions, withdrawal, deposit, and refund at transaction cancellation. We simplified it by developing a new component that allows the sorting of banknotes for three directions. As a result, we were able to decrease the number of components used for the module and shorten the conveyance route by 40%.

As a result of these technological development and functional improvements, we have achieved a dramatic reduction of power consumption. We will continue to cater to energy saving needs of customers and make various proposals about ATM operation.

OKI Group Environmental Activity Plan (Fiscal 2011): Targets and Achievements

	Category	Activities	Targets for Fiscal 2014	Targets for Fiscal 2011	Achievements in Fiscal 2011		
					Results	Evaluation	See Page
Products	Control of chemical substances contained in products	Operate and improve chemical substance management • Regulations to control chemical substances inside and outside Japan • Response to revised standards of the industry	Reflect the results of the evaluation of suppliers' CMS* in our procurement standards	Build a procedure to evaluate suppliers' CMS and operate it on a trial basis	Established and started operating a procedure to evaluate CMS	○	12 ~13
			Assemble and utilize a database of Suppliers' CMS evaluations	Add a new function to increase survey efficiency for chemical products	Added a web survey function and started to operate thereof	○	
	Manufacturing low power consumption products	Conform with laws and regulations about power saving as well as the industry's initiatives	Meet sales targets for Eco Products certified in accordance with the new standards	Register more than three new OKI Eco Products in accordance with the new certification standards	Registered five new Eco Products	○	11 Website
Business Activities	Prevention of global warming	Reduce CO2 emitted from business activities (by introducing highly efficient equipment, and improving operational systems)	Basic unit to be reduced by 1% or more (compared to the average of the past five years)	Basic unit to be reduced by 1% or more (compared to the average of the past five years)	Reduced basic unit by 2.0%	○	12, 27, 28, 29
	Resource Circulation	Reduce newly input resources at production sites	Meet targets for the reduction of newly input resources	Maintain and continue zero-emission	Maintained and continued zero-emission	○	13, 27, 29
Environmental Management	Practices of OKI Group environmental management	Streamline OKI Group Environmental Management System	Examine the visualization of environmental data about sites inside and outside Japan	Implement the consolidated certification plan, and examine the expansion thereof	Completed consolidation certification as planned and added one site	○	Website
		Establish and operate a biodiversity management system	Formulate a procedure to evaluate biodiversity	Prepare for a biodiversity management system and examine a plan for it	Completed preparations for a biodiversity management system and enacted a plan for it	○	13

* CMS: Chemical Management System

Twofold Improvement of Luminous Efficiency of LED Printhead

OKI Digital Imaging (ODI) develops LED printheads. ODI has achieved the twofold improvement of luminous efficiency of its LED printheads by improving the LED structure. In a digital LED printer, toner on the photoconductive drum exposed to LED light from its LED printhead is transferred to and fixed on paper (Figure 1). Thousands of LED chips are mounted on the LED printhead. Each LED chip is comprised of multiple semiconductors. ODI arrived at the best possible combination of thickness, materials, density and other conditions about semiconductor devices from among numerous combinations. This combination secures the same light output as the conventional LED printhead with half the driving current. As a result, it allows the further reduction of power consumption and prolongs LED life with less heat.

Figure 1: Exposure of light from LED printhead

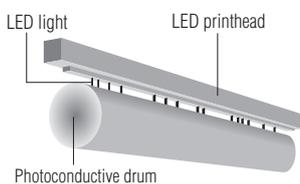


Figure 2: LED chip with twofold luminous efficiency



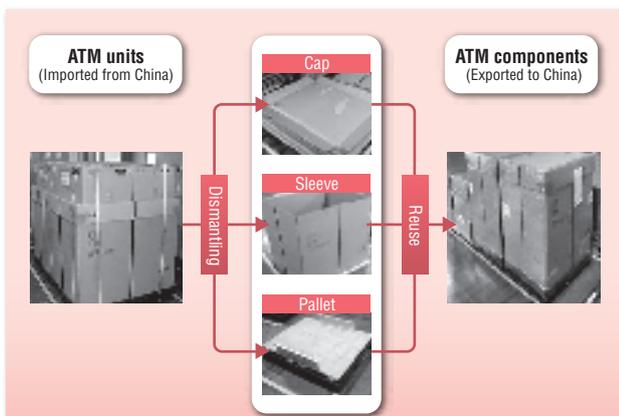
Environment Conservation Efforts in Business Activities

Reuse of Packaging Materials for ATMs

OKI's Mechatronics Systems Plant in Tomioka, Gunma manufactures and assembles ATMs and other products. The plant has promoted the reuse of packaging materials for ATMs in cooperation with OKI Electric Industry (Shenzhen) in China (OSZ). For example, the plant adopted new shock-absorbent pallets for ATM units and components, and improved the method to fix them on such pallets. This change has allowed the plant to use the same packaging materials for three round trips. Before that, packaging materials were disposed of after being used for a one-way trip. As a result, the plant dramatically reduced the annual purchase volume of new packaging materials from 300 tons to 78 tons in fiscal 2011.

The plant also downsized its protectors for its ATM units while maintaining the same shock-absorbing function. It enables the plant to increase the number of ATM units loaded in a shipborne container by 30%. As a result, it was able to reduce CO₂ emissions by 135 tons during the fiscal year.

Reuse of Packaging Materials for ATMs



74% Reduction of Waste Plastic Through Careful Separation of Wastes

OKI Communication Systems in Tokorozawa, Saitama has addressed the recycling of waste plastic since fiscal 2008. In fiscal 2011, the company achieved a 74% reduction in disposal amount and a 78% in disposal cost compared to fiscal 2008. In order to facilitate careful separation for recycling, the company discussed about appropriate ways to separate waste with its contractor in the first place. It then established a system to ensure careful separation by carrying out various awareness-raising activities. Among them were careful instructions at each job site, the visualization of recycling effects, and the dissemination of a Q&A guideline. The company also introduced compressors for compressing waste plastic prior to the contractor's collection thereof, and thus improved collection efficiency. As a result of the promotion of these activities on a company-wide basis, the company achieved the above dramatic reduction in disposal amount and disposal cost.



Separated containers for waste plastic



Compressed waste plastic

Promoting Environmental Skills

The OKI Group has offered various environmental education programs at different sites. OSZ in China held "Low-carbon Knowledge Contest," an event to raise awareness about the prevention of global warming, in May 2011. A total of 100 participants from the company's employees competed with each other in this quiz-show-style contest. The participants commented that they were impressed by the relationship between their life styles and the prevention of global warming as well as the importance of environmental conservation.



Winning team in the "Low-Carbon Knowledge Contest" at OSZ

Pollution of Underground Water and Soil

The OKI Group has specified a group of observation points at every production site and monitored the quality of underground water there on a regular basis. During such a regular examination at Honjo site, the groundwater sampled from some observation points was measured to be a bit above the normal level. In response to this, the OKI Group has implemented appropriate recovery measures under the guidance of the relevant local authorities. In fiscal 2011, no underground water or soil pollution was observed.

Penalties / Claims

There were no environment-related penalties imposed on or claims made against the OKI Group in fiscal 2011. Whenever such an event occurs, we locate the cause thereof, deal with the problem properly and take appropriate preventive steps.