

Consideration for the Environment

In its quest to create and pass on a better world to future generations, the OKI Group promotes effective environmental management and conducts initiatives to protect the environment through its products and business activities. We coordinate and implement environmental management systems across the entire Group that underpin our environmental management commitment. Under the OKI Group Environment Policy, we have actively promoted the continued reduction of environmental impact through environmentally conscious products such as those with low power consumption, and energy saving and resource saving in business activities.



Logo for the OKI Group's environmental activities

Environmental Contribution through Products

Automated Teller Machine (ATM) with Low Power Consumption

As the enforcement of the Revised Energy Saving Act requires the private sector to make visible efforts for saving energy, there has been an increasing need for ATMs with low power consumption in both Japan and overseas. OKI has made various efforts in different aspects to meet this need.

For example, we have dramatically decreased the number of components used for each ATM unit, shorten the length of the banknote conveyance route, and thus dramatically decreased power consumed for conveying banknotes by developing new components for the conveyance and sorting processes. We have also achieved a reduction of standby power consumption by adding a new low power consumption mode to the banknote handling module and the banknote recognition unit.

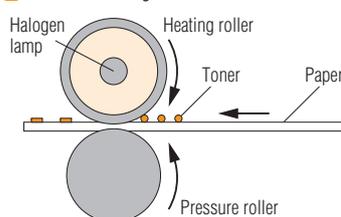
As a result of these efforts, the latest model of OKI ATMs

has realized a 30% reduction of power consumption compared to the previous model. We plan to introduce these measures for reducing power consumption to cash processing systems and other products.

Printers with Low Power Consumption

OKI Data has been active in developing printers with low power consumption. As for electricity used for a printer, power consumed mostly in the toner fixing process. In order to reduce the heat capacity for this process, OKI Data has developed a new toner fixing unit with a new design using some new materials. The company has also developed a toner that can be fixed at lower temperatures compared to conventional toners. It currently aims at reducing power consumed for printers more than 50%, when measured using the TEC method*.

How toner fixing unit works



* TEC method : a method to measure power consumed for a period of one week under a typical condition – five days in "on/sleep/off" modes, and two days in "sleep/off" modes

World's First 40 Gbps Optical Communication Technology for Dramatically Reducing Power Consumed for Network Devices

As power consumed for expanding networks is expected to jump sharply in the near future, there has been an impending need for new technology that can dramatically reduce power consumed for network devices. In fiscal 2010, OKI successfully developed an optical phase synchronization technology*1 for coherent optical communication*2. Regarded as a promising high-speed communication system of the next

OKI Group Environmental Activity Plan (Fiscal 2010): Targets and Achievements

	Category	Activities	Targets for Fiscal 2013	Targets for Fiscal 2010	Achievements in Fiscal 2010		
					Results	Evaluation	See Page
Products	Control of chemical substances contained in products	Enhancing chemical substance management • Response to REACH regulation • Response to similar regulations in China and other countries	Establish and implement a new set of Green Procurement standards to include the CMS* evaluation standards of suppliers	Start the full-scale implementation of a new CMS in compliance with REACH and other regulations	Started the operation of the system for some specific products	○	15
			Assemble and utilize a database of Suppliers' CMS evaluations	Release a new IT system compatible with the information distribution infrastructures	Completed the improvement of the IT system compatible with the information distribution infrastructures and industry-standard research tools	○	
	Prevention of global warming	Manufacturing low power consumption products	Improve compliance with revised laws and regulations about the reduction of power consumption	Examine the registration of new standards for the OKI Eco product certification	Improved the consistency with the criteria of the relevant laws and regulations about the reduction of power consumption	○	(Website)
Business Activities	Prevention of global warming	Reducing CO2 emitted from business activities (introducing highly efficient equipment, and improving operational systems)	Set targets based on industry trends and achievements in fiscal 2012	Basic unit to be reduced by 1% or more (compared to the average of the past five years)	Resulted in a 2.2% increase of basic unit and missed the target due to the full-scale operation of the new production sites for printers and the production increase	×	12 13 27 28 29
	Recycling of used resources	Reducing waste at main production sites	Increase the number of sites subject to "zero-emission" (including overseas sites)	Maintain and continue zero-emission	Maintained and continued zero-emission	○	29
Environmental Management	Practices of OKI Group environmental management	Streamlining of OKI Group Environmental Management System	Facilitate the visualization of environmental data	Formulate and implement a consolidated certification plan, and an internal mutual audit	Completed the consolidated certification as planned, and conducted an internal mutual audit	○	(Website)
		Improving environmental consciousness	Continuously hold the EcoTest seminar and improve the quality thereof	Hold the Eco Test seminar	Held the Eco Test seminar twice	○	27

* CMS: Chemical Management System

generation, coherent optical communication had been believed to be highly difficult for putting into practical use. Using a prototype 40 Gbps coherent receiver made with this newly invented technology, OKI was successful in realizing the world's first stable coherent reception of binary phase-shift modulated signals*3. With this technology, we do not need convert optical signals into electrical signals. Thus, it allows a 10% decrease in power consumed for optical receivers and an effective reduction of network delay.

- *1 Optical phase synchronization technology: an elemental technology for the reception of coherent signals that allows highly accurate synchronization of the phases of two different optical carrier waves within a bandwidth of 200THz
- *2 Coherent optical communication: a system of optical communication in which optically-superimposed signals in terms of optical frequency and phase are transmitted utilizing the characteristics of light as a wave
- *3 Phase-shift modulated signals: optically-superimposed signals through phase-shift modulation, not through intensity modulation

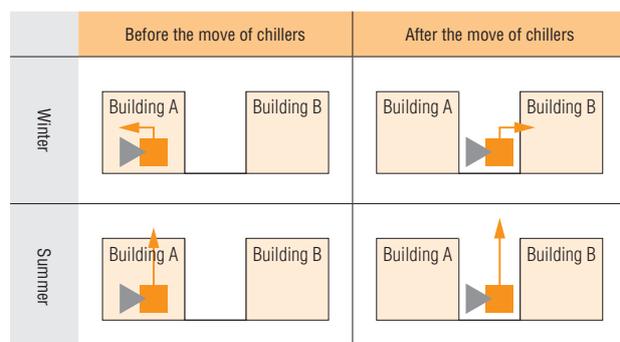
Environment Conservation Efforts in Business Activities

Energy Saving Measure at Tomioka Site

OKI's plant at Tomioka site operates laser beam machines and pressing machines for sheet-metal processing 24 hours a day to manufacture ATMs and other products. In order to cool these machines, several chillers have been used at the plant. In June 2010, as part of our energy saving effort, we moved some of these chillers to a new place outside the plant building Building A in the following figure, reduced waste heat emitted in the plant, and thus improved air conditioning efficiency during summer. We later used waste heat for heating a building adjacent to the plant (Building B) during winter.

As a result, we reduced electric power used for air conditioning during summer by about 65,000 kW (a 11% decrease compared to the previous year), heavy oil for air conditioning during winter by 16.7 kl (a 43% decrease compared to the previous year) in fiscal 2010.

Move of Chillers



Completing the Retirement of Fiscal 2010 Emission Credits for "Carbon Zero Manufacturing Facilities"

OKI Data has made its three main production sites in Fukushima (Japan), Thailand, and China "Carbon Zero Manufacturing Facilities" through a global carbon offset activity since October 1, 2009. The CO₂ emissions from these sites in fiscal 2010 amounted to 9,940 tons (4,694 tons in the first half, and 5,246 tons in the second half). They were completely offset in April 2011. The emission credits used for the offset were retired through K.K. Satisfactory International. Any third party can check the retired credits on the Markit Environmental Registry.

Projects used for offsetting the carbon emissions in the second half of fiscal 2010

Project ID	Project Name	Country	Credit Type	Volume (tons)
364	Bundled 15MW Wind Power Project in India	India	VCU*	2,178
256	Mungcharoen Green Power -9.9 MW Rice Husk Fired Power Plant Project	Thailand	VCU	2,203
78	Nobrecel Biomass Energy Project	Brazil	VCU	865

* VCU (Voluntary Carbon Unit) : A VCU is a tradable carbon offset credit issued by a VSU certified project for reducing/absorbing greenhouse gas. VCS, the Voluntary Carbon Standard, is a standard to certify greenhouse gas reduction/absorption projects developed by the World Business Council for Sustainable Development (WBCSD) and other organizations.

Promoting Environmental Skills

The OKI Group has helped employees pass the Certification Test for Environmental Specialists (Eco Test) in order to improve the environmental consciousness of individual employees and make them more motivated to take actions for environmental issues. The group has held the Eco Test seminar twice a year since 2010. More than 80% of the participants in the seminar passed the test in fiscal 2010. We plan to expand this seminar that is highly regarded by employees.



Successful applicants for the Eco Test

Efforts for Conserving Biodiversity

As the 10th Conference of the Parties to the Convention on Biological Diversity (COP10) was held in Nagoya in October, corporate efforts for the conservation of biodiversity attracted considerable attention in fiscal 2010. OKI became a member of the "Declaration of Biodiversity by Nippon Keidanren" Promotion Partners, and also participated in the Japan Business and Biodiversity Partnership in 2010. We also started examining the evaluation of the impact of our business activities on biodiversity. We have made various environmental activities thus far that can contribute to the conservation of biodiversity, such as energy saving, waste reduction, resource recycling, and forest improvement. We will further promote these activities as a business group.

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 2010, 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 2010. Whenever such an event occurs, we locate the cause thereof, deal with the problem properly and take appropriate preventive steps.