

Environmental Report 2008



Corporate Overview

Corporate Profile

In 1881, Oki Electric Industry Co., Ltd. was established by the founder, Kibataro Oki as the very first manufacturer of telecommunications equipment in Japan. Over hundred years since then, OKI have cultivated technical skills by applying "enterprising spirit" as driving force, and have grown together with the advance of information technology and communications technology. In recent years, we have focused on providing products and services using unrivaled strengths and uniqueness as the OKI group.

"e-Society" the OKI Group Aims for

A wide range of information is being exchanged beyond time and space over global networks. This breaks down the boundaries among countries, regions and cultures, enabling individuals to engage in various social activities in an impartial, secure way.

OKI makes a solid contribution to the realization of the e-Society with its continued innovations. This society is full of individualized Ubiquitous Services, which are built upon Ubiquitous Networks, and are provided to all individuals. With this, OKI delivers peace of mind to people around the world.

Profile

Corporate Name	Oki Electric Industry Co., Ltd.
Foundation	January 1881
Establishment	November 1, 1949
Capital stock	76.9 billion Yen (as of March 31, 2008)
Number of employees	5,313 (non-consolidated)
	22,640 (consolidated)
	Japan: 15,313 (consolidated)
	Overseas: 7,327 (consolidated)
	(as of March, 31, 2008)
President and Chief Executive Officer	Katsumasa Shinozuka
Head office	Atago East Building, 3-16-11 Nishi Shimbashi, Minato-ku, Tokyo, JAPAN
Description of Business	Manufacturing and selling electronic communications, information processing, semiconductors and software. Construction of systems and providing solutions related to them. Construction, maintenance and other services, etc.

Sales in Fiscal 2007

Non-consolidated: 719.7 billion Yen Consolidated: 408.8 billion Yen

Sales by Location in Fiscal 2007



Sales by Segment in Fiscal 2007





Fingerprint Authentication Chip



Low-Power-Consumption Semiconductor SOS (Silicon –on-sapphire) technology



Editorial Policy

Purpose

The purpose of this report is to disclose the environmental information of the OKI group and to give people an understanding of our environmental management.

Policy

We introduce our policy by section, including "Environmental Management" "Reduction of Environmental Impact of Business Activities" and "Environmental Communication", etc.

The report describes the importance of the environmental management in the OKI group and themes which stake holders are highly interested in.



Target Audiences

This environmental report is for all stake holders such as shareholders, investors, customers and clients, etc.

Target Period for the Report

Fiscal 2007 (April 1, 2007 to March 31, 2008)

Report Coverage

This report covers the environment-related activities of the OKI group (Oki Electric Industry and related companies).

Schedule for the Next Report

The next report is scheduled for publication in July 2009.

Reference Guidelines

- ◆"Environmental Reporting Guidelines 2007", Ministry of the Environment
- "Environmental Reporting Guidelines with Stakeholder Focus 2001", Ministry of Economy, Trade and Industry
- Sustainability Reporting Guidelines 2006", GRI
- "Environmental Accounting Guidelines (2005 Edition)", Ministry of the Environment

Relation with Other Reports

Besides this "Environmental Report", the OKI group plans to issue an "Annual Report" covering our economic activities and a "Social Responsibility Report" covering our social activities.



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President and Chief Executive Officer

Katsumase Brinozuko

Greetings

"Aiming to realize a better global environment for the next generation"

The OKI group aims to realize a better global environment for the next generation, and has built the system of "Company-wide network-type environmental management" to perform the efficient and flexible environmental management, which has strengthened its efforts in the environment at full power. By concentrating environmental management resources on significant environmental measures, this environmental management enhances management flexibility and investment effects, and builds the network to share environmental management resources and results among all groups. Consequently, it is to perform environmental measures efficiently.

In fiscal 2007, it was a year to judge the efforts and results for the prevention of global warming due to the start of the commitment period of the Kyoto Protocol in 2008. The efforts to maintain an environmental balance with carbon offset, etc., which calculates corporate activities by carbon used in the activities, have been developed. Furthermore, in Europe, in addition to the enforcement of RoHS in the previous year, REACH Regulation, which is a control regulation for chemical substances, has been newly enforced. Therefore, more concreteness and effectiveness are required for company measures and policies. The chemical substances enriching our lives could threaten our lives if we can not handle them in an appropriate manner. It is assumed that regulations for chemical substances in each country will be restricted in the future.

The OKI group promoting the global development looks ahead to the future regulations on energy-saving design, and regards both the creation of energy-saving products and the enhancement of a control system for chemical substances contained in products as important issues. By utilizing "Company-wide network-type environmental management", the OKI group will actively work on the prevention of global warming such as the creation of OKI energy-saving products and the improvement of energy efficiency in domestic and international manufacturing process. Moreover, the OKI group will strengthen further the system to consistently control chemical substances contained in products from designing to manufacturing.

In fiscal 2007, in addition to Thailand (which was certified in 2006), we expanded the scope of the consolidated ISO 14001 certification to the Chinese production site, which has led to the expansion and optimization of "Company-wide network-type environmental management".

The Environmental Report 2008 is to concretely indicate the environmental contribution of the OKI group and its management form to realize the contribution. We hope this report will help your understanding on the environmental activities of the OKI group and its results; moreover, it will be a part of communication with you.

The OKI group achieves a better global environment by providing products that contribute to the realization of the "e-Society" for the next generation, and inherits this within the group.

- 1. Aim to maximize activity effects by executing company wide network-type environmental management.
 - Take actions to provide environment-friendly products and services in all business processes through product planning, manufacturing and maintenance operation.
 - (2) In the business activities, strive to save energy / resources and take actions to reduce wastes.
- Comply with applicable legal requirements / regulations / customer requirements / other requirements and prevent pollution.
- 3. Adequately implement PDmCA (Plan-Do-multiple Check-Act) in the environmental management system, and take actions to progress environmental performances and to continue improvements of operation system.
- 4. Disclose environmental information, and make wide contribution to the society by supporting environmental activities.



Company-wide Network-type Environmental Management

The efforts of the OKI group to create new eco-friendly products and realize environmentally compliant business through the selection and concentration of environmental management resources and the convergence of environment-related technologies by regarding the entire company as a single framework.

Topics of Fiscal 2007

Expanded the scope of the consolidated ISO 14001 certification to the Chinese area

In fiscal 2007, Dong Guan site of OKI Micro Engineering (HK) and Kunshan site of OKI Electric Technology (Kunshan) in China, and OKI Communication Systems (Hidaka site in Tokorozawa) and OKI Logistics (7 branches) in Japan have been certified to companywide consolidated ISO 14001. The OKI group promotes the expansion of the consolidated ISO 14001 certification to other production sites in China, and enhances the compliance with regulations for chemical substances contained in products, etc.



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Granted the certification to Dong Guan site of Oki Micro Engineering (HK)

Enhanced the control system for chemical substances contained in products

To improve the compliance with European RoHS Directive and REACH Regulation, etc, for the purpose of the improvement of the accuracy of chemical substance information and the establishment of operation, a new control system for chemical substances contained in products has been built.



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Won "THE MONODZUKURI NIPPON GRAND AWARD" and "Minister's Prize, the Ministry of Economy, Trade and Industry" for "Epitaxial Film Bonding" Technology

By the practical application of the "Epitaxial Film Bonding" technology that enables drastic downsizing of a printer's LED head unit, we won the fifth Prize for Promoting Machine Industry, "Minister's Prize, the Ministry of Economy, Trade and Industry" and the second "MONODZUKURI NIPPON GRAND AWARD".

The OKI Data Corporation has established OKI Woodland and planted 4,500 trees in 4 acres (approx. 16,200m²) in Cumbria of northwestern England to absorb 4,050 tons of CO₂ emissions originated from energy use per year in sales sites and production sites in Europe. By performing this carbon-offset activity, we are aiming to be a carbon-neutral company.

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Epitaxial Film Bonding Technology

Woodland in Cumbria of northwestern England

Introduced "Complete Recycling-based Uniform"

Started Carbon-offset activities in Europe

In cooperation with TEIJIN FIBERS, LTD and Chikuma & Co., LTD, the OKI group has introduced a system to collect used uniforms from all employees and fiberize them. This system enables semi-permanent recycling. By the end of fiscal 2008, approximately 2,000 of uniforms will be recycled to reduce the approximately 3.7 tons of CO2.





Recycled OKI uniforms

Environmental Management

Company-wide Network-type Environmental Management

The OKI group, by vertically and horizontally combining the activities of our sites and in-house companies, has been promoting "Company-wide network-type environmental management" to achieve an efficient management in the entire group. On each theme of our environmental activities, this "Company-wide network-type environmental

Management by Sites and Companies



management" provides the selection and concentration of resources to resolve issues and technologies and information sharing to create eco-friendly products and practice the business with low impact on the environment, and finally we are aiming to take efficient environmental measures and maximize the effect.

Outline of Company-wide Network-type Environmental Management



Optimization of Environmental Management

Aiming to optimize our "Company-wide network-type environmental management" that is an approach exclusive to the OKI group, we have six aspects to promote the improvement of our management system and operation.



CSR:Corporate Social Responsibility



Pillars of Our Activities

The OKI group is aiming to realize a better global environment for the next generation, working on the following major themes; "Promotion for measures to prevent global warming" "Compliance with regulations for chemical substances in products" and "Enhancement of the measures for environmental compliance"



Company-wide Consolidated ISO 14001 Certification

Expanded the scope of the consolidated ISO 14001 certification

The OKI group, by realizing "Company-wide network-type environmental management", aims to practice consistent environmental measures and policy, and high-quality environmental management including not only the control of chemical-substance use but also the reduction of CO_2 emissions for prevention of global warming, reduction of wastes, reuse and recycling for effective utilization of resources.

In fiscal 2007, in addition to two group companies in China, we have integrated one group company in Japan and all branches of OKI Logistics in Japan performing the logistics business. By integrating each company in domestic and international group companies into the same environmental management system as the OKI group, we enhance information sharing and the efficiency of works.

Since production sites in China have been integrated into the same environmental management, it allows us to unify the management for the collection of chemical substance information and the compliance with each country's regulations throughout the business process from designing and development to purchase, production and shipping. While we transfer the center of production activities to China, the OKI group promotes to expand the scope of the consolidated ISO 14001 certification to other production sites in China, and enhances the compliance with environmental laws and various regulations.



Kunshan Site of Oki Electric Technology (Kunshan) Co., Ltd. newly integrated



Granted the certification to Kunshan Site of Oki Electric Technology (Kunshan) Co., Ltd.

Scope of Consolidated Certification

Toranomon Site Shibaura Site Warabi Site Takasaki Site Honjo/Tomioka Site Hachioji Site Numazu Site OKINET Ecchujima Site Miyagi Site ODC Fukushima Site OEF Fukushima Site OPT Fukushima Site

OME Fukushima Site OPC Niigata Site ODK Gotanda Site NOK Nagano Site OLC Eitai/ Isezaki Site OLC Hokkaido Branch Office Site OLC Tohoku Branch Office Site OLC Chubu Branch Office Site OLC Chugoku Branch Office Site OLC Chugoku Branch Office Site OLC Shikoku Branch Office Site OLC Kyushu Branch Office Site OLC Kyushu Branch Office Site OEG Hikawadai Site OCM Tokorozawa/ Hidaka Site Kansai Research and Development Center Hokkaido Regional Office Site Tohoku Regional Office Site Chubu Regional Office Site Kansai Regional Office Site Chugoku Regional Office Site Shikoku Regional Office Site Shikoku Regional Office Site OTH Ayutthaya Site (Thailand) ODMT Ayutthaya Site (Thailand) OPNT Chiang Mai Site (Thailand) OME Dong Guan Site (China)

Environmental Education

General Environmental Education

We implement general environmental education through elearning targeted for all employees of the OKI group every year.

In the education in fiscal 2007, we covered the basic



information of the environmental management and the theme of energy conservation that can be practiced at home, including environmental policy or activity plans in the OKI group, etc.



Special Environmental Education

We implement special environmental education through elearning targeted for the sales and design divisions of the OKI group.

In the special education in fiscal 2007, we covered the education



of chemical substances contained products based on RoHS directive and REACH Regulation, and the education of collecting and recycling system of used products under the Cross-jurisdictional Waste Treatment Manufacturers Scheme.



Business Offices and Production Sites

We periodically implement education and training related to the production of products including regulations for chemical substances and green procurement to improve the compliance with regulations. In addition, we implement the special education based on operational management of environmentrelated facilities to strive for the reduction of environmental risks and the stable operation of facilities.



Education scene in a global production site

Environmental Management

Environmental Protection Activity Program "OKI Eco Plan 21" and Achievements

The foundation of OKI's environmental activities is the Environmental Management System. We built the environmental management system that covers the entire OKI group. In addition, we created the environmental protection activity program, "OKI Eco Plan 21" to reduce environmental impacts continuously and have been promoting concrete efforts for the targets set in this program. The goal of "OKI Eco Plan 21 (Fiscal 2007 version)" has been achieved mostly as shown in the following table.

OKI Eco Plan 21 (Fiscal 2007 version) : Targets and Achievements

	Category	Activities	Goal for Fiscal 2010	Goal for Fiscal 2007	Achievements o	of Fiscal	2007
	Category	Activities			Results	Evaluation	See page
	Control for	bl for Enhancement of chemical		Response to domestic and international laws and regulations, and customers' requests	Smooth response to objective products	0	15
oducts	chemical substances contained in products	-Response to RoHS directive and REACH Regulation -Response to other regulations for chemical substances	Improvement of information system at the manufacturing stage Full-scale operation with DB in the information system field responding to REACH	Establishment of information system at the manufacturing stage	Establishment of a system and start to operate it.	0	16 17 18
N re u:	Material recycling of used products	Construction of internal recycling system and expansion of its scope (Efficient operation and utilization of Cross- jurisdictional Waste Treatment Manufacturer Scheme)	Consideration for the improvement of the system application rate and Review of the goals	Review of the operational system/ Information development within the company	Expansion of contractors for collecting and transporting Implementation of company training	0	21
Improvement of environmental skills (Products/ Services		Enhancement for the understanding of environment-related laws and regulations, customer requirements, etc. (e-learning, training classes, etc.)	Special environmental education (Major suppliers)	Consideration for the transfer to the operation of the skill improvement	Attendance rate:88%	0	9
ties	Prevention of global warming	Reduction of CO2 emissions originated from energy use in the business activities (Introduction of the highly-efficient device/ Review of operation) (Application of other Measures)Reduction of the emission of greenhouse gases not originated from energy use (Introduction of exhaust-gas treatment equipment/ Process improvement/ Gas change, etc)	Basic unit: Reduced by 35 % or more – (compared to fiscal 1990)	Electronic devices Basic unit: Reduced by 1 % ore more (compared to fiscal 2006)	-1.6% (absolute quantity -5.1 %)	0	
				Info-telecom equipment Basic unit: Reduced by 0.5 % or more (compared to fiscal 2006)	+6.6% (absolute quantity +11.6 %)	Δ	23 24 25 26 27
usiness activ			Total: Reduced by 10% or more (compared to fiscal 1995)	Establishment of implementation plans	Establishment of implementation plans	0	
B	Resource recycling	Reduction of wastes in production activity sites (Maintenance/ continuation of zero emissions)	Continuation	Continuation	Zero- emissions partially achieved	Δ	28 29 30 31
	Restriction of environment affecting chemical substances	Restriction of emissions and handled quantities of environment affecting chemical substances (Reduced by 30% or more until 2010 compared to fiscal 2000)	Total: Reduced by 30% or more (compared to fiscal 2000)	Consideration for the reduction plans/ Implementation of applicable measures	Consideration for the introduction of the facilities and reduction methods/ Consideration for the improvement of the manufacturing process	0	31
Management	Enhancement of the Environmental Management System	Promotion of the company-wide network- type environmental management (Considering and implementing the expansion of the applicable scope of the system in Japan and overseas)	Expansion of the application in Japan and overseas/ Consideration for the plans in next fiscal year	Expansion and consideration of the application in Japan and overseas	Expansion by 10 sites	0	6 7 8
Environmental	Enhancement of environmental compliance	Improvement of understanding of own environmental results/ company policy, etc. by outsiders (Participation in the exhibition and assembly education)	Implementation of the audit by the second party (Objectives are expanded)	Participation in Exhibition (Products, etc)	Holding the seminars	0	9

Environmental Activities Related to Products

The OKI group, as the environmental activities related to products, works on the "Reduction in power consumption", "Elimination of hazardous materials" and "Resource conservation (reduction in size and weight)" to contribute to the environment by providing eco-friendly products.

Creation of Energy-saving Products

At the stage of product development and designing, the OKI group has introduced Product Assessment Scheme and LCA (Lifecycle Assessment) to work on the creation of energy-saving products contributing to the prevention of global warming.

Product Assessment Scheme

Product assessment is, at the stage of product designing, a method to ease the environmental impact of a product by comparing predetermined assessment items (for example, energy conservation, resource conservation or recyclability) with a "standard model" (the previous model, etc.) and repeating the design process until the judgment criteria are satisfied.



LCA (Lifecycle Assessment)

LCA is a method to assess effects on the environment by consistently quantifying flows of material and energy throughout the entire lifecycle of a product from production up to its disposal.



Enhancement of the Control for Chemical Substances Contained in Products

The OKI group aims to improve the compliance with global regulations of chemical substances, having enhanced the management system in principal production sites in Japan and overseas by introducing the company certification program of the control system for chemical substances contained in products. In addition, we have developed a new IT system to unify the control of chemical substances contained in products, which used to be separately managed from designing to shipping. Consequently, this brings the improvement of the accuracy of traceability.

Overview of Control of Chemical Substances Contained in Products



Conservation of Resources, Recycling and Reduction of Wastes

The OKI group has introduced the product assessment scheme to work on the reduction in size and weight of products, and reduction of resources and materials used. Furthermore, the OKI group actively engages in appropriate recycling activities of used products.

Environmental Activities Related to Products

Creation of Energy-saving Products

IP Multi-functional Telephone



IP Multi-functional telephone [MKT/IP-30DKWHFWL]

IP multi-functional telephone, "MKT/ IP-30DKWHFWL", reduced 44 % of its power consumption and 8% of its weight compared to the conventional our products. The telephone is an eco-friendly product that contributes to the integration of the IP network by succeeding the operability of Multi-key telephones, R series that is the current multi-functional phone.

In addition, by installing the function of "eSound[™]" and "My eSound[™]" that have OKI's high quality sound technology and the wireless function, we offers a new application opportunity in a free-address office.

*1) "eSound" "My eSound"

"eSound" offers great sound quality superior to the conventional telephones, being the IP telephone technology exclusive to OKI to obtain a realistic conversation. "My eSound" is the IP telephone technology exclusive to OKI that can provide high-quality sound upon receiving a call from a general telephone and an external number. By utilizing the IP multifunctional phone that has installed "eSound" and "My eSound" as the standard, it allows you to realize comfortable conversations, regardless of the telephone that the other party uses.

*2) OKI Eco Products

It is a symbol indicating products certified under "Oki Eco Product Certification Program". The OKI group has been operating the "Oki Eco Product Certification Program" certifying products that meet OKI's original environment standards as "OKI Eco Products" since fiscal 2001 in order to provide customers with products friendly to the environment. High-speed & Compact Bill Sorting and Bundling Machine



Bill Sorting and Bundling Machine [CX-320]

High-speed & Compact Bill Sorting and Bundling Machine, "CX-320" is a banknote sorter used in banking offices of financial institutions, cash collecting sections, and also in back offices of the retail market related to works for deposit and sorting of banknotes. To reduce the influence of an installation space, CX-320 reduced its power consumption in the stand-by mode by 30% with retaining the same size as the conventional device. Moreover, it increased the processing capability by 50%, and reduced the sorting time of banknotes by 30%, which will offer business efficiency.

Main Functions and Features

- With realizing the outstanding processing capability and increasing the containing capacity of banknotes to approximately 1,000 banknotes, that is, double from the conventional device ability, it also offers 7.2 bundles per minute that is the fastest in the field, and 6 bundles per minute in sorting and bundling 4 types of banknotes simultaneously(*). It is achieved by expanding accumulation storage and improving transporting structure of banknotes.
- The bundling unit has a structure to enable the auto loading when exchanging the paper band in order to make a small bundle of banknotes, which provides the higher operability in the exchange than the conventional device.
- The banknote distinguishing unit, besides the distinguishing of banknote types, performs to distinguish damaged banknotes to separate clear banknotes from the damaged. By developing a new distinguishing sensor for banknotes, the device performs the human-eye-like distinguishing of clear and damaged banknotes.
- *) Simultaneous bundling of 4 types of banknotes: To simultaneously bundle 4 types of banknotes by type and make a small bundle of 100 banknotes.

Creation of Energy-saving Products

Compact and low-power-consumption UV monitor



Prototype for portable accessory installing the UV sensor IC

Recently, as trends toward health and anti-aging grow, many people are protecting their skin based on the UV level they are exposed to. The UV sensor IC "ML8511" developed by OKI applied the world's first SOI-CMOS technology (*) to integrate UV light receiving element and analog output circuit into a single chip. This helps to reduce the number of component units, therefore, we can realize to reduce power consumption, costs and size compared to the conventional device. Furthermore, since the IC installs the stand-by function, the IC enables the reduction of stand-by power consumption, which leads to the extension of the battery life span of a portable device. The OKI provides useful information (reference designs) of the detailed measures for daily health care and skin care based on the UV level detected by the UV sensor IC, "MLo8511", planning to support the product development for customers.

*) : SOI-CMOS(Silicon On Insulator - Complementary Metal Oxide Semiconductor)

The SOI-CMOS technology is a technology to develop CMOS on the insulator. It utilizes the SOI substrate with an embedded Insulator instead of a conventional silicon substrate. This enables lower voltage operation and decreases the effect of leak current temperature. In addition, since a transistor is completely separated by the insulator, the influence of the noise via the board from the digital unit to analog unit is reduced. Therefore, it is appropriate for high integration. Fingerprint authentication LSI



Scanning of fingerprint data

The OKI developed a fingerprint authentication LSI that can easily create a cost effective high-speed, high-accuracy, low power consumption fingerprint authentication system.

In addition, the LSI includes a function to protect the fingerprint data from being easily read out, enabling high-level security systems.

[Characteristics of ML67Q5250]

- High-speed fingerprint authentication: The fingerprint authentication accelerator executes all fingerprint authentication processes, from capturing fingerprint image to authentication, within 0.8sec using 32MHz system clock.
- Low cost: No external memory is required as the embedded Flash/RAM store up to 15 fingerprint templates.
- Simple optimization: Highly optimized for AuthenTec's slide fingerprint sensors for high-precision authentication. Certain touch sensors are also supported.
- Fingerprint data protection function: Fingerprint data is protected from unauthorized access.
- Fulfilling peripheral (peripheral functions): Installs GPIOs, USB2.0 FS device controller, serial port, and external memory controller.
- Providing the Software Development Kit embedded with AuthenTec's slide sensors: Installs AuthenTec's AES1510 and AES2510. The business-card-size board can be driven by batteries, and and enables enrollment and authentication with batteries without connecting to a PC.



Fingerprint authentication LSI [ML67Q5250]



Creation of Energy-saving Products

The OKI group, for the creation of new environmental solutions, actively utilizes the wireless network technology including ZigBee operated at the lower consumption.

Energy-saving demonstration experiment in convenience stores

OKI implements the energy-saving demonstration experiment at convenience stores (hereinafter called "the stores") by utilizing the ZigBee(*1) wireless sensor network. We have confirmed 5 %of the energy-saving effect for the power consumption per year with its comfort at convenience stores in Tokyo.

This demonstration experiment focuses on the improvement of the comfort in the stores, by applying the context awareness technology (*2) for the information (power consumption of the device for temperature, humidity, illumination and air conditioning) inside and outside of the stores collected from the wireless sensor network including ZigBee, etc. This technology performs the integrated device control with improving the comfort in the stores. In the future, we will develop the technology to enhance the energy-saving effects and also research the remote control technology, which can integrate and control energy-saving information for multiple stores, to work toward the practical use.

- *1) ZigBee : One of the short-range wireless communication standard. It has low speed and short transmission range, however, it has the advantage of low power consumption and low costs.
 - ZigBee is a registered mark of Koninklijke Philips Electronics N. V.
- *2) Context Awareness Technology: A computer actively collects and processes information indicating a user status, and then, it performs processing suited for the status.



System Configuration Image of Demonstration Experiment

Web sensing services - Bringing Transparency to Environment -

OKI Network Integration has started the web sensing services to realize "Bringing Transparency to Environment" using ZigBee wireless sensor network. With the mesh-type wireless method(*), a wide range of environmental information (temperature and humidity/ power consumption, etc) is measured in real time so that it is useful for measures of energy-saving in factories and buildings. Connection configuration of mesh-type wireless method



^{*)} Mutual communication by multiple wireless applications



Recently, regulations for chemical substances in products including European RoHS Directive, REACH Regulation have been rapidly changed. In products for other than Europe, customers' demands for compliance with RoHS, etc have been increasing. As the OKI group that carries out the global business development, we have rebuilt the control system of chemical substances contained in product, and introduced a new company certification program to further improve the compliance with regulations for chemical substances.



Efficiency of Management Procedure

To improve the compliance with various demands for chemical substances contained in products, the OKI group builds up and operates the management system related to the control of chemical substances contained in products.

This procedure clarifies the management items at each stage from designing to shipping. With the procedure, we confirm its management procedures and operational condition, introducing a new program to certify the built control system.

In addition, we appropriately reflect new laws and regulations, and demands from customers on our efforts for the enterprise system of suppliers and environment conservation, as well as on "Green Procurement Standards" to conduct surveys on chemical substances contained in incoming goods, and then we operate the management system.

"Green Procurement Standards" consists of two documents: one that is applied to electronic and mechanical parts purchased by the info-telecom equipment divisions, and one that is applied to material, etc. purchased by the electronic device divisions. The standards are published on our website.



Overview of Control Guideline for Chemical Substances Contained in Products

Standards for Control of Chemical Substances in "Green Procurement Standards"

CI N

Classification	Prohibited Substances	Restricted Substances	Voluntarily Controlled Substances
Number of Substances	15	9	435
Particular Criteria	Substances prohibited for manufacturing and use by laws and regulations	Substances that may adversely affect human health or the environment in the future	Substances subject to PRTR

Supplier Evaluation Items of "Green Procurement Standards"

Management Items	Number of Items
Items related to the establishment of the environmental management system and the control system of chemical substances contained in products	12
Items related to the reduction of Environmental impact	24



Improvement of Accuracy of Chemical Substance Information

We have streamlined the IT system that can unify the management of product configuration, chemical substance information of each component and material from suppliers, and company management items in purchase, manufacturing and shipping stages. Previously, we managed them separately in each stage, however, by unifying the management of them, we can ensure the certain traceability of chemical substance information, and promptly offer information to customers.

Management of Chemical Substance Information by IT System



Establishment of Management Operation

We built the control system of chemical substances contained in products surely. Then, to establish it, we developed presentations of guidelines, regulations for chemical substances, management procedures, and IT system in business offices in Japan and overseas.

In addition, with the certification of a management system newly produced, we conduct the survey on the structural status of the management system by the internal audit to confirm that the company standards are met. We have built





the management system in principal business divisions (designing and production sites) in Japan and overseas, and already completed the certification.

In the future, the OKI group will develop the establishment and operation of the control system for chemical substances contained in products not only in the group but also suppliers, and will create products compliant with global regulations for chemical substances.



Presentation of Green Procurement Standards in Production Sites in Overseas



Enhancement of Component Certification Standards

At the designing stage, in the procedures of compliance with chemical substances contained in product components, we obtains the information of contained chemical substances and non-containing guarantee of chemical-substances or certificates of analyses from suppliers, and then, certify them after checking the contents. In the new certification procedure, we added procedures to implement chemical analyses on registration of components and evaluate them to the conventional procedures for the purpose of the improvement of compliance with regulations for chemical substances and the reduction of risks. The OKI group keeps improving the control of chemical substances contained in products, and offers environmental compliance products.



To the highly-accurate response to RoHS Directive

The Environmental Division of OKI Engineering Co., Ltd. analyzes chemical substances contained in materials and components by taking advantage of the technology and experience of chemical analyses. In the second semester of fiscal 2007, we analyzed contents in regulated substances of various articles including components and circuit boards used in products. Objective components were various articles from small articles like chip resistors to big articles like product main bodies. As for the analysis procedure, at first, the screening of a whole article by the X-ray fluorescence spectrometer is performed, and then, precise analysis is performed using the ICP-Mass spectrometer according to need.

To respond to the regulation demands of chemical substances contained in products that will be complicated, we will offer accurate analysis services based on the conventional analysis technology.



Tomohisa Takanuki Environmental Division OKI Engineering Co., Ltd.



In 2001, the OKI group developed an information system for chemical substances contained in products, "COINServCOSMOS", which has been operated throughout the OKI group. In 2004, we started to provide it as a useful system to customers outside our group. We will respond to regulations and the demands of the industry appropriately to improve the efficiency of works.





Seisuke Yamanaka, President and CEO (Center) Toshiyuki Iida, Corporate Director (Right) Hirofumi Onuma (Left) CIS Corporation

CIS Corporation designs, manufactures and sells industrial CCD cameras. Since 2000, the request of green procurement has been increasing from customers, therefore, we started to research the green procurement for suppliers. In the beginning, we used to submit paper-based research results including Non-containing guarantee of chemical substances, etc, however, since we had to calculate the mass of contained substances in each product, we introduced COINServ-COSMOS.

COINServ-COSMOS installs the list of product components, and has a great function to calculate the contained substances of each component so that we can drastically reduce time to submit calculated results to customers. In addition, since OKI took our requests and suggestions for improvement, we could perform the progress management of green procurement researches easily.

In the future, we would like to make efforts for reducing CO_2 using the measures of LCA.

Environmental Activities Related to Products

Conservation of Resources, Recycling and Reduction of Wastes

Won "THE MONODZUKURI NIPPON GRAND AWARD" and "Minister's Prize, the Ministry of Economy, Trade and Industry" for "Epitaxial Film Bonding" Technology

The OKI Data Corporation and OKI Digital Imaging, by the practical application of the "Epitaxial Film Bonding" technology that enables drastic downsizing of a printer's LED head unit, won "Minister's Prize, the Ministry of Economy, Trade and Industry" (*1) of the fifth Prize for Promoting Machine Industry. Furthermore, OKI Digital Imaging also won "THE SECOND MONODZUKURI NIPPON GRAND AWARD" (*2).

- *1) The Prize for Promoting Machine Industry is a prize from Japan Society for the Promotion of Machine Industry for companies and inventors who are awarded with remarkable achievements in manufacturing of new products, improvement of product quality and performance, and/ or rationalization of production by the research and development related to technology in the machine industry that is excellent at originality, innovative ability, and economic efficiency.
- *2) "THE MONODZUKURI NIPPON GRAND AWARD" is the Prime Minister's Award that has been designed for the purpose to raise the motivation of workers supporting the creation (Monodzukuri) technologies to succeed and develop "MONODZUKURI" supporting Japanese industries and culture, and to introduce its existence to the society.

Epitaxial film bonding is a technology to bond thinfilm material using the intermolecular bonding force working between the films. By utilizing this technology to printer LED heads, we succeeded in practically applying a new type of device that integrates a light-emitting device and a driver circuit into one unit to achieve mass production for the first time in the world.

A new LED head developed by this technology reduces its volume by half compared to the conventional LED head, and realizes drastic downsizing of the printer. In addition, it improves economic efficiency by reducing environmental impacts and production materials such as the driver IC chip shrink, the reduced number of connections by wire bonding, and the reduced number of installed chips.



President, Hiroshi Kikuchi of OKI Digital Imaging won the "Minister's Prize, the Ministry of Economy, Trade and Industry".



Thinfilm LED bonded to the driver IC using epitaxial film bonding technology



C710dn applying the "Epitaxial Film Bonding" technology



Development of "Thin, Light, and Flexible" Board

For the realization of the ubiquitous society, small and lightweight electronic products are needed so that everyone can use any time and anywhere.

OKI Electric Cable developed an ultrathin highly flexible printed circuit which is called "Flexible Print Circuit Board" (hereinafter called FPC). The new FPC can respond to all types of wiring to be bent or folded for use in tight space inside of the products. The FPC is three times more flexible than the conventional board, and enables the threedimensional wiring with the durability that can be folded up to 60 million times. It has the folding quality as if it were an Origami, compatibility with concave-convex surfaces, low rebound resilience to keep a bent shape, which contribute to the reduction in size and weight of the products.



Recycling Activities of Used Bras Wires -OB Wire Recycling Network-

OKI Electric Cable has collected and recycled bobbins used for wind-up of electrode wires, and the collected bobbins have been approximately 60% of distributed quantity in Japan. The electrode wires have been sold to processors together with other processed metals as industrial wastes in the past, however, OKI Electric Cable has built a system to collect and recycle used electrode wires at the same time of collecting of used empty bobbins and recycle them.

This recycle is referred to as "OB Wire Recycling Network" (*2), and we offer new wires to customers without cost in accordance with the collection quantity of used wire bobbins. For 70kg collection of used wire, we give back 20kg of new standard wires. As the goal for the collection in the future, we aim for 20 tons/ month in fiscal 2008, and 60 tons/ month in fiscal 2010 (60% of collection rate in Japan) to expand recycling.

- *1) Metal wire used in the wire electric discharge machine. Generally, it consists of brass which is alloy of 65% of copper, 35% of znic.
- *2) Network built by customers and OKI Electric Cable to circulate OB (Oki Brass) Wire (a product name of electrode wires).



OB Wire Recycling Network



OKI was approved by the Ministry of the Environment for the "Cross-jurisdictional Waste Treatment Manufacturer Scheme"(*) in July 2006. The scheme has the purpose of improving the recyclability of used products in waste treatment. Target industrial wastes are info-telecommunications equipment and printer products, which were collected, processed, and recycled.

The products collected all over Japan are sent to the Honjo recycling center (Saitama prefecture) of OKI Supply Center or to a contracted industrial waste treatment company authorized by OKI. In addition, we have built our own procedures for the security, and contribute to customers' sense of safety.

The collection quantity of used products in fiscal 2007 was 1,504 tons with a focus on telecommunications equipment

Recycling Results for Used Products



*1)Reuse rate: the ratio of reused parts and material to collected used products (in mass)

 *2)Material recycling rate: the ratio of material recycling and reuse to collected used products (in mass)

*3)Recycling rate: the ratio of material recycling, thermal recycling and reuse to collected used products (in mass)

including ATM (Automated Teller Machine), and the material recycling rate is 91% in the Kanto area where the large quantity has been collected.

*)Cross-jurisdictional Waste Treatment Manufacturer Scheme:

An exemption scheme of the Waste Disposal and Public Cleansing Law that allows product manufacturers, etc. to treat waste across multiple prefectural districts. Its purpose is to ensure a reduction of waste, as well as its adequate treatment and recycling.



Honjo recycling center

The business of Oki Logistics Co., Ltd. is logistics, and the OKI's collection system of used products under the "Cross-jurisdictional Waste Treatment Manufacturer Scheme" has a role in collection and conveyance.

In OKI's product collection system under the "Cross-jurisdictional Waste Treatment Manufacturer Scheme", we, for customers, operate the system focusing on the compliance to ensure appropriate waste treatment. Recently, a growing number of customers wish for the product collection under the "Crossjurisdictional Waste Treatment Manufacturer Scheme", and want OKI to treat OKI's products appropriately. By utilizing "Cross-jurisdictional Waste Treatment Manufacturer Scheme", we can collect used products as industrial wastes using the same truck that delivers products to customers, therefore, we have the advantage that we can reduce unnecessary fuel consumption.

We would like to actively develop the product collection system under "Crossjurisdictional Waste Treatment Manufacturer Scheme" to customers, and try to expand the operation.



Toshimitsu Yamagami Corporate Planning Office Oki Logistics Co., Ltd.

Environmental Activities Related to Products

Conservation of Resources, Recycling and Reduction of Wastes

Collaborative Project for Recycled Paper Using Annual Grasses



OKI Data agreed to work on a project to develop and manufacture high-quality and low-price paper using annual grasses and recycled paper appropriate for color printers in cooperation with Dalian Polytechnic University (Dalian in Liaoning province in China).

In rapidly growing China, the paper quantity consumed has been rapidly increasing, and it is a significant issue for the environment. In addition, since the exacerbation of serious desertification caused the rise in the price of woods, there is a supply shortage in high-quality paper made of woods. Therefore, it is urgent to diffuse recycled paper or paper using annual grasses including kenaf fibers, etc. However, as for conventional recycled paper and paper using annual grasses, it is difficult to realize the high-quality printing by color-page printers due to the shortage in gross level and excessive paper powder. This is the reason for the diffusion issue.

Dalian Polytechnic University is a comprehensive university having the advantage in material and food fields. The university established "Paper and Pulp Manufacturing

Recycling of Printer Supplies

OKI Customer Adtech actively works on reuse and recycling of printer supplies including toners and ink ribbons. Consequently, the recycled product rate of sales volume increased up to 23% in fiscal 2007. We will continue to work on the reuse and sales of recycled products.



Sales Volume Transition of Recycled Products



Auto Storage of Supplies

the mass-produced paper at low price by 2009 in cooperation with the university. One of the purposes in this project is to contribute to the prevention for the exacerbation of desertification in China by planting annual grasses.

Process Department" in School of CHEMICAL & MATERIAL to perform research on paper development and manufacturing, and it holds high analysis technology, knowhow, and facilities for the researches, prototypes and mass production. Especially, the university has been researching paper using annual grasses, which are limited to the use of toilet tissue, etc. The development for new use, that is, the development of high-performance paper which can be used

In this collaborative project, to realize high-quality printing on the paper by color-page printers, we develop highperformance paper excel in physical property such as friction coefficient, electrical resistance, and surface nature necessary for toner transfer performance and continuous stability. Dalian Polytechnic University analyzes the printer paper, performs researches on materials and manufacturing

methods, and manufactures the test paper, while the OKI

Data evaluates physical property as printer paper, and print

image. We will produce the test paper by 2008, and complete

in printers in offices has been a continuing issue.

Environmental Report 2008 Environmental Activities Related to Products The OKI group, as for measures of environmental impact on business activities of the OKI group, actively works on the themes of "Reducing the Emission of Greenhouse Gases", "Conservation of Resources/ Recycling Activities" and "Environmental Risk Management/ Safety Management".

Reduction of Environmental Impact of Development and Production Activities

As "input", we consume resources such as energy, chemical substances, and water to perform the business activities, "development" and "production". Then, as "output", we discharge environment-affecting substances into the air and water and also emit waste.





Reducing the Emission of Greenhouse Gases

Reducing the Emissions of CO2 Originating from Energy

The OKI group has applied the CO_2 basic unit by the real output*1 according to the calculation standards of the electric and electronics industry's "Voluntary Action Plan on Measures to Fight Global Warming". In addition, the CO_2 emissions associated with the use of purchased electricity are calculated by the emission coefficients*2 of the supplying power companies in each area.

We aim for "Improving the CO₂ basic unit by real output in fiscal 2010 by 35% (to 65% or less) compared to fiscal 1990", which has been upwardly revised in fiscal 2007, as a goal of the electric and electronics industry, and then, make efforts for energy-saving activities with the aim. The info-telecommunication group has reduced the output by 32.8% and achieved the goal. Furthermore, the semiconductor business group has reduced it by 66.5%.

Meanwhile, as for the basic unit compared to the previous year in each business group, the info-telecommunication

group has declined 6.6%, and the semiconductor business group has improved 1.6%. The total CO_2 emissions from both groups are 227,500 tons.

- *1) CO₂ basic unit by real output: CO₂ emissions / real output (real output = output for each article / the yearly rate of the Bank of Japan's Domestic Corporate Goods Price Index (electrical machinery & equipment), with fiscal 1990 being 1.)
- *2) Power conversion coefficient (Public emission coefficients by each business based on "Law Concerning the Promotion of the Measures to Cope with Global Warming")



Transition of CO₂ Emissions (Major Production Sites of the OKI Group)

Measures for Energy Conservation in OKI Group

We reduced 11,000 tons of CO_2 emissions at our major production sites of the OKI group in Japan in fiscal 2007. This is equivalent to CO_2 emissions of approximately 3,300 households for one year. For the major measures for energy conservation, high-efficient equipment based on air conditioning facilities was actively introduced as shown in the right table, and we could achieve great effects.

In addition, the OKI group applies the standards to evaluate environmental impact when replacing facilities. The standards are effective measures in the case where high-efficient equipment is introduced upon the replacement of facilities. To mention an example of refrigerators with large energy consumption, the coefficient of performance (Proportion from equivalents of refrigerating capacity and consumption energy calorie) in the current absorption refrigerator is more than twice the conventional model (compared to our product). Based on these evaluations, we are able to obtain great effects by selecting / introducing facilities. Measures Items for Major Energy Conservation in OKI Group

Category	Items			
High efficiency of systems	Control of the number of rotations by introduction inverters including various fans/ pumps			
	Replacement with high-efficient refrigerators			
	Replacement with high-efficient boilers			
	Introduction of eco washers in a makeup-air unit (elimination of undercooling and reheat)			
	Replacement with high-efficient air compressors			
	Introduction of high-efficient lighting equipment			
Efficiency of Management	Efficiency of steam supply methods			
Method	Efficient operation by integrating ventilation fans			
	Efficiency of wastewater treatment			
Others	Reduction of cooling load by heat insulating paint of roofs			
	Complete stop of stand-by devices (production devices)			
	Application of natural heat energy (Free cooling system)			

Reducing the Environmental Impact of Business Activities

Reducing the Emission of Greenhouse Gases

Reduction of Per-fluoro compounds (PFC) Gas Emissions

In the semiconductor manufacturing process, PFC gas (*1), which has an influence on global warming, is used and partly emitted into the air. The OKI group is working to reduce emissions by substitution with different gases having a smaller impact on the environment, by the installation of waste gas treatment equipment, and by the process improvement.

Miyazaki OKI has introduced a new separation and collection system for PFC combining multiple hollow fiber membranes that have spaces of about 300 micrometers (micro is one in a million) in diameter, and has started to operate the devices. Of PFC gas used in the etch process of semiconductors, 95% density of PFC gas can be collected by this device. Compared to the conventional combustion system or pyrolysis system, less energy is consumed and cooling water is not required. We consider reusing collected PFC gas in manufacturing process.

*1) PFC gas: CF4, C2F6, C3F8, C4F8, CHF3, SF6 and NF3



Collection system for per-fluoro compounds





Transition of PFC Gas Emissions (Converted into Global Warming Potential (*2))

*2) Global Warming Potential: Reference index converted into the CO₂ emissions that affect global warming.



Reducing the Emission of Greenhouse Gases

Efforts for Carbon Offset

OKI Data implements carbon offset activities in Europe. If the usage of electricity and gas from all of our businesses in Europe including printer factories and sales sites is converted into CO_2 emissions, it will be 4,050 tons per year. To absorb these CO_2 emissions, OKI Woodland has been established for the purpose of increasing nature in the land of 16,200m² in Cumbria of northwestern England to plant 4,500 threes such as "oak", "beech", and "brich." Fast-growing annual grasses may not be suited for the local soil and climate, and it may be difficult to obtain great effects. Therefore, OKI Woodland, by planting trees that have been growing originally, aims for the continuous carbon offset effects for a long period.





Eco-friendly Factory

OKI (UK), which is a production site of OKI Data in England, reduced 1,400 tons of CO_2 emissions per year. The England production site reduced the usage of energy drastically at the eco-friendly factory which has started its operation since November, 2005. As for main measures, we applied energy conservation of air conditioning by using natural light and open air efficiently. To do so, Oki Data Corporation reduced electricity usage by 43% compared to the usage in fiscal 2004. In addition, by applying complete gasification of winter heating fuel that was used by combining heavy oil and gas, it reduced CO_2 emissions by 40% compared to in fiscal 2004. Furthermore, it has improved a manufacturing method of toner cartridges, and reduced water usage by approximately 80%.



Production Line Reform

OKI Data Fukushima site that is a business site of printers in Japan improved the layout of the production line, and reduced production spaces in the factory by 20%. By transferring 6 storages for components and members around the site to the empty space, it reduced 51,000 kilometers of truck transportation distance between the storages and business sites. Because of the layout improvement, it reduced CO_2 emissions by 70%.



Reducing the Environmental Impact of Business Activities

Reducing the Emission of Greenhouse Gases

Reducing Environmental Impacts on Distribution

Response to Revision of the Rationalization in Energy Use Law

OKI reinforces its own efforts to the Revision of the Rationalization in Energy Use Law enforced in fiscal 2006 together with OKI Logistics (hereinafter called OLC) as a goods-holding company.

OLC integrates a wide range of conveyance information into the database, and compiles the data required for Revision of the Rationalization in Energy Use Law. CO_2 emissions estimated from the calculation results were 3,756 tons in fiscal 2005, 3,944 tons in fiscal 2006, and 4,038 tons in fiscal 2007.

OKI Logistics Distribution



Promotion of Eco Driving

To obtain the theory of Eco Driving and driving skills, many of OLC participated in Eco Driving workshop. They learned 10 articles of Eco Driving and obtained driving skills from driving training. Finally, they received certificates from Foundation for Promoting Personal Mobility and Ecological Transportation.





Promotion of Modal Shift

To reduce CO₂, we have been promoting a modal shift of a transportation system from trucks to the more environmentfriendly railroads since the beginning of time.

For 5 sites out of 7 long-distance sites of OKI Logistics which are production sites of the OKI group in Kanto district, we have changed key transportation from truck transportation to Japan Railways container transportation (Modal shift).

We reduced 196 tons of \mbox{CO}_2 emissions in fiscal 2007 due to the modal shift.

Efforts of Each Modal Shift Site

014	0	Transp	ortation b	y truck	Transportation by Japan Railways 5T container transport			
Site	Started in	Start point	Destination	Distance(Km)	Start point	Destination	Distance(Km)	
Hokkaido (Sapporo)	1995	Isesaki	Sapporo	1,081	Kuragano	Sapporo	1,085	
Tohoku (Sendai)	2003	Isesaki	Sendai	378	Kumagaya	Sendai	378	
Chugoku (Hiroshima)	1995	Isesaki	Hiroshima	915	Kuragano	Hiroshima	887	
Shikoku (Takamatsu)	1995	Isesaki	Takamatsu	719	Kuragano	Takamatsu	703	
Kyushu (Fukuoka)	1995	Isesaki	Fukuoka	1,199	Kuragano	Fukuoka	1,178	

Flow of Modal Shift Promotion



The OKI group promotes 3R activities, and works on the Zero Emission activity with waste prevention and recycling. In fiscal 2007, as a new effort, we started to recycle used uniforms and waste cooking oil from the company cafeteria.

Improvement of Material Recycling Rate (Zero Emission)

In fiscal 1996, we set our eyes on "material recycling of wastes" and have been striving to improve the material recycling rate (*1).

In fiscal 2002, we achieved zero emission(*2),however, in fiscal 2006, Miyagi OKI was faced with problems of the material recycling for wastes due to a change in the acceptance criteria of the contractors that had been commissioned to perform the material recycling of the waste. In fiscal 2007, we started the material recycling in new contractors, however, we could not achieve zero emission due to the limit of accepted amount.

As a result, the material recycling rate dropped to 89.6%. In

fiscal 2008, following the previous fiscal year, we aim to achieve zero emission by considering and researching material-recycled items.

- *1) Material recycling rate: Quantity of material-recycled resources / (quantity of material-recycled resources + quantity of finally disposed waste) x 100
- *2) Zero emissions: Defined by the OKI group as a 99% of material recycling rate or more

Transition of Material Recycling Rate of Wastes in Major Production Sites



Amount of Final Waste Disposal

The amount of final waste disposal from both industrial wastes and general wastes emitted from major production sites of the OKI group has drastically increased because the OKI group is faced with a problem of the material recycling

due to the change in the acceptance criteria and the limit of accepted amount in material-recycling contractors of dewatered sludge in semiconductor sites. The OKI group aims for the material recycling of dewatered sludge.







Starting Uniform Recycling of All Employees -Completely Recycled Uniform-

In cooperation with TEIJIN FIBERS, LTD and Chikuma & Co., LTD, the OKI group has introduced a system to collect used uniforms from all of our employees and to fiberize them. This system enables semi-permanent recycling. By the end of

fiscal 2008, approximately 2,000 of uniforms will be recycled to reduce the approximately 3.7 tons of CO₂.

Collecting and Recycling System of Uniforms

Recycling System Flow



Application of Waste Cooking Oil as Biodiesel Fuel

OKI Logistics, in corporation with G.O. Food Service Co., Ltd, supplies waste cooking oil from the company cafeteria to Project Transport, Limited. We have been promoting our effort to use refined biodiesel fuel as truck fuel instead of light oil. It is expected to reduce 60 tons of CO₂ emissions per year. The biodiesel fuel is carbon neutral fuel that can drastically reduce emissions of black smoke and sulfur oxide.



Refinement process of biodiesel fuel



Truck running on refined biodiesel fuel



Efficient Use of Water Resources

To use water resources more efficiently, we have been actively promoting the recycling of water within our production sites. Especially, since we use large amounts of water in the semiconductor manufacturing process, we built the closed systems to minimize the amount of water emitted to the outside of the plant. In the closed systems, we utilize membrane separation technologies and impurity-ion removal technologies to remove impurities in the waste water from the manufacturing process. With the systems, we achieve a water collection and re-use rate of more than 90%. In addition, the waste liquid from the wafer-cutting water generated in the assembly process of semiconductors is reused as purified water after it is cleansed by separating water chaff.

In fiscal 2006, our water usage has increased by approximately 10% from fiscal 2005 or before, because we added our offices to the scope of the calculations.



Efficient Use of Paper Resources

The OKI group strives to protect forest resources through green purchasing of office supplies, or reduction activities of copying paper. The reduction for copying paper has been effective through a method utilizing the network such as electronic authorization of documents, and electronic data interchange. For copying paper, catalogs, business cards, and toilet tissue, etc., we have been promoting the green purchasing in the whole OKI group.

Transition of Copying-paper Usage



Efficient Use of Packaging Materials

We works on simple packaging and recycling to reduce the usage amount and wastes of packaging materials such as cardboards, buffer materials, and pallets used in product transportation.





Environmental Report 2008 Reducing the Environmental Impact of Business Activities



Chemical substances consumed and emitted by the production activities could have grate impacts on the environment if they are not controlled in an appropriate way. The OKI group works on the control and reduction of chemical substances in order to reduce environmental impacts and risks.

Control and Reduction of Chemical Substances Used at Production Sites

We identify chemical substances used at production sites, which give a serious environmental impact, and then, we control them by classifying them into three types such as prohibited substances (95 substances), restricted substances (92 substances) and voluntarily controlled substances (389 substances). The quantity of chemical substances handled in fiscal 2007 grew slightly due to an increase in production volume.



Transition in the Quantities of Chemical Substances Handled

Efforts for the PRTR System

The PRTR (Pollutant Release and Transfer Register) system is a method to control the emission and the moving condition of chemical substances that give serious impacts on the environment. The quantity of substances subject to PRTR handled by the OKI group in fiscal 2007 was nearly

flat, however, emissions were decreased by half due to recycling. We will continue our efforts on substituting chemical substances with other substances that have low impacts on the environment and reduction of usage.



PRTR Results of Fiscal 2007

Chemical Substance	Handled	Emitted Quantity			Transferred Quantity		
Onemical Substance	Quantity	Air	Public Water	Soil in Operational Sites	Sub-total	To the Sewage System	To the Outside of Operational Sites
Hydrogen fluoride and its water-soluble salts	173.02	0.09	4.26	< 0.01	4.35	0.32	93.79
2-aminoethanol (monoethanol)	25.98	4.68	< 0.01	< 0.01	4.68	< 0.01	21.30
Xylene	16.28	1.62	< 0.01	<0.01	1.62	<0.01	7.38
Nickel compounds	6.59	< 0.01	0.01	< 0.01	0.01	< 0.01	0.13
Toluene	1.85	0.04	< 0.01	< 0.01	0.04	< 0.01	< 0.01
Pyrocatechol	5.66	0.29	0.02	<0.01	0.31	< 0.01	5.35
Formaldehyde	13.37	0.11	< 0.01	< 0.01	0.11	<0.01	<0.01
Lead	7.02	< 0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.01
N,N - dimethyl formamide	1.84	0.33	< 0.01	<0.01	0.33	<0.01	1.51
Total	251.62	7.15	4.29	< 0.01	11.44	0.32	129.46

Controlling the Selection of Chemical Substances

When using a new chemical substance, we apply only chemical substances that comply with the application standards after evaluating the impacts with each perspective of safety, disaster prevention and environment. We built a system to comprehend the chemical substances inputted into the manufacturing process, which are emitted as exhaust gases, wastewater and wastes, and we make use of the system for activities to reduce the usage through process improvements, to switch to substitutes with a lower environmental impact, or to completely stop using the substances.



Environmental Risk Management and Safety Management

Disaster-Prevention Measures of Miyagi OKI

Miyagi OKI received the citation for disaster prevention from the Minister of State for Disaster Management in 2007. Miyagi OKI encountered three earthquakes with intensity 5 upper that are Sanriku-Minami Earthquake in May, 2003, Northern Miyagi Earthquake Sequence in July, 2003, and Miyagi Earthquake in August, 2005. Through those experiences from the earthquakes and as preparation for expected Miyagi earthquake that could occur with high possibility, we have been implementing broad and advanced disaster-prevention measures from preventive measures for disasters to responses in the event of disasters.

Two earthquakes in 2003 caused great impacts including facility damages and shutdown of factories. Therefore, we established the crisis-management committee within the company in August, 2003, to analyze the damages of the earthquakes from various aspects. Based on the results, we have been actively promoting BCM (Business Continuity Management : Measures for continuing company activities in a disaster).

Introduction of Real-time Earthquake System

In addition to Miyagi OKI, Miyazaki OKI introduced the realtime earthquake system. The real-time earthquake system predicts a reached intensity by using the real-time earthquake early warning from Japan Meteorological Agency and the prime-wave seismograph installed in the OKI's site. Depending on the size of an earthquake, the system shuts down gas supply and chemical supply facilities in advance. With the real-time earthquake system, we can minimize leaks of gas and chemicals in the event of big earthquakes.



Enhancement of environmental compliance

Recently, environmental-related laws and regulations are often revised. The semiconductor business group that should comply with many applicable environmental laws and regulations has built the regulatory committee, and the three production sites of Hachioji site, Miyazaki OKI, and Miyagi OKI exchange the information of law revisions through a videoconference system to develop appropriate activities.







Environmental Risk Management and Safety Management

Safety Field Audit

The OKI group implements the field audit every year which is called the safety field audit. The safety field audit is to confirm, by the local audit, that the OKI group takes measures in advance to prevent "accidents causing injury or death", "accidents due to negligence" including leaks, fire, and explosion, and "damages due to natural disaster" including earthquakes and thunderbolts which may occur in the OKI group, and also that those measures are appropriately taken for their occurrence. The safety filed audit is not only for the safety within the sites but also for the safety (Environmental conservation) outside the sites.

The audit team consists of corporate auditors in charge of production, CSR, and disaster prevention, safety and healthy, and environment, and they audit based on the check lists. In fiscal 2007, the audit was implemented in 14 sites in Japan and 7 sites in overseas (21 sites in total) but, there were no critical pointed items. However, small items including storage condition and indications of chemicals were pointed, and the pointed items were immediately improved to prevent industrial accidents or environmental pollution.



Safety Field Audit (Outside of a facility)

Local Check of Industrial Waste Treatment Site

Industrial waste generators are responsible for properly treating industrial wastes. In the OKI group, experts come to the industrial waste treatment sites every other year to check that industrial wastes are properly managed and disposed. If



Safety Field Audit (Inside of a facility)







Industrial Waste Treatment Site

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Environmental Risk Management and Safety Management

Prevention of Environmental Risks

The OKI group takes preventive measures and conducts emergency response trainings or drills to reduce environmental risks at each site.



Training for a leakage of hazardous objects (OKI Honjo site)



Fire drill (OKI Erfolg)



Fire drill (OKI Thailand)



Training to prevent the leak-out of heavy oil (OKI Tomioka site)

Underground Water Pollution / Soil Pollution

The OKI group has installed observation points in more than 100 locations, with a focus on all production sites, to monitor underground water periodically. The concentration of hazardous substances at the borders of each premises satisfies environmental standards.

At production sites where the measured values at some

observation points on the premises slightly exceeded the environmental standards (Honjo, Saitama), we have implemented appropriate recovery measures upon the guidance and advice of the related local community. In fiscal 2007, new soil and underwater pollutions were not found.

Penalties / Claims

There were no environment-related penalties or significant claims in fiscal 2007. If these events occur, we investigate the causes, take preventive steps, and perform appropriate treatment.

Support for Environmental NPO and NGO

The OKI group prepares a program for environmental volunteer activities that employees can participate without constraint. In addition, we have been working in cooperation with organizations aiming to preserve biodiversity.

OKI Network Integration (hereinafter called OKINET), on behalf of the OKI group, received a certificate of appreciation from ECOSYSTEM CONSERVATION SOCIETY – JAPAN in February, 2008. ECOSYSTEM CONSERVATION SOCIETY – JAPAN has held "All-Japan School Biotope Contest" every two years since 1999. Since the third contest in fiscal 2003, OKINET and OKI Customer Adtech have offered live broadcasts of the events without any cost through an original conference system with the internet for school officials who can not attend to the contest site, as well as they have cooperated to record the events for promoting the school biotopes. The certificate shows that the OKI group has been highly appreciated for its achievements.

In the 21st century, we have reached a turning point from "Competitive age" to "Coexisting age". It is a transition from the age when limited resources on earth have been competitively consumed to the age of coexistence with the natural ecosystem. ECOSYSTEM CONSERVATION SOCIETY – JAPAN is working to collect information all over the world to build "Beautiful Japan Coexisting with Nature." In order for Japan, which depends on other countries for resources including foods, etc, to promote sustainable nation building, our children, bearers of the future, need true environmental educations to learn the foundation of the existence of humanity. As one of the methods of realizing "Coexistence with nature", and as one of scientific environmental educations, we work on the school biotope. We greatly appreciate OKI's cooperation in promoting the school biotope.

While Japanese companies seem to focus on measures for the prevention of global warming as environmental activities, they should also focus on the issues of preserving biodiversity in the same way. We try to find the best way through the business activities of companies in cooperation with the OKI group, and would like to contribute to realize "Company coexisting with nature."



Houbun Ikeya Chairman, ECOSYSTEM CONSERVATION SOCIETY - JAPAN

Green Earth Center is an organization to raise and support forest volunteers. It is a pipeline between people or companies that wish to volunteer and local communities. Japanese companies have come to focus on "Life and Culture" of employees and people on the earth. The forest volunteer activity of companies is a way to contribute to "Life and Culture" in the local communities where the companies exist. The forest volunteer activity of OKI is a pioneering activity in that field. Especially, in activities in Komoro, OKI provides various programs in cooperation with Komoro municipal government, which is a great example of companies connecting with not points but surfaces of the local community. This manner is a key to keep the company volunteer activities.

To establish the forest volunteer activity in companies, it is necessary to make an effort to estimate contributions to the prevention of global warming in a visible manner, for example, by converting the effect of activities into CO_2 reduction points. We hope that OKI will produce interesting ideas by utilizing Green Earth Center.



Hitoshi Nitta Senior Director and Executive Director, NPO Green Earth Center

Support for Environmental NPO and NGO

Nippon Environment Club was established as a gathering of various industries by corporate executives in 1994 under the theme of "What can companies do for the global environment?". We appreciate that Shiko Sawamura, the OKI's former president, was involved in establishing and running this club together with other directors, and still, he has been supporting to run Nippon Environment Club.

The main business of Nippon Environment Club is to hold environmental seminars for companies and to provide a place to the persons in charge of environment in companies for the purpose of exchanging information between them. When people think of environmental issues, the understanding and activities of companies should not be ignored. Therefore, it is important that companies understand the environmental issues properly, and work on the activities properly.

Of three major themes related to the environmental issues including "Global warming", "Recycling society" and "Biodiversity", "Biodiversity" seems not to be a familiar theme for companies. Therefore, we consciously try to provide opportunities for the theme. Under the theme of "Company and Environmental Management", Nippon Environment Club will enhance the network through information exchange between government offices including Environment Ministry and Ministry of Economy, Trade and Industry, and companies or citizens, and companies or citizens, and we will work on the realization of a better human society.



Syuko Yamada Executive Director, NPO Nippon Environment Club

Environmental Volunteer,"OKI Cooperative Team for Mountains and Greenery"

Carrying out Forest Maintenance in Kannonyama in Takasaki, Gunma

In June 28, 2005, OKI executed the Agreement on Forest Maintenance "Forest for Communication (Fureai-no Mori)" with the Forest Administration Authority of Gunma Prefecture. OKI will have implemented the forest volunteer activities (tree cutting, tree thinning, vine cutting, or bottom weed cutting for five years until March 31, 2010.

In the activity of "OKI Group Fureai-no Mori", we carry out the forest maintenance activities in cooperation with the Forest Administration Authority of Gunma Prefecture and the NPO Green Earth Center twice a year.

Carrying out Tree Thinning in Nakaizu

Tree thinning in Nakaizu has been implemented once a year in cooperation with NPO Green Earth Center since 2001. In the seventh activity in fiscal 2007, each team cut down approximately 10 trees in common forest in Jizodo in Nakaizu

Participating in Forest Maintenance in Komoro

In January 19, 2005, OKI, which established the "OKI 100 Yen Fund of Love" (OKI ai no 100-en bokin) donated from the executives and employees of OKI group, executed the agreement of "Forest Foster Parent" with Komoro city where Nagano OKI (affiliated company) exists. We haven been foster parents of 50-ha forests in Komoro for five years since February 1, 2005, to participate in the forest maintenance.

The activities of the OKI group are introduced on the web page of "Forest-producing program that companies participate in" of Kanto Regional Forest Office.

district, and performed cross cutting (cut at two-meter intervals) and then, collected them in a place.



Environmental Communication

Disclosure of Environmental Information

Environmental Report

We release an Environmental Report in order to present the OKI group's efforts for environmental activities. The report is designed to generally disclose the environmental information of the OKI group to the society and to obtain the understanding and liability of stakeholders.

Japanese Version	http://www.oki.com/jp/eco/
English Version	http://www.oki.com/en/eco/
Chinese Version	http://www.oki.com/cn/eco/



Fiscal 1999







100



Fiscal 2002



Fiscal 2003



Fiscal 2004



Fiscal 2005



Fiscal 2006



Fiscal 2007

Communication with Local Communities

Under the themes of "Enlightenment of environmental consciousness to citizens", "Efforts in cooperation with citizens, businesses and government for the realization of resource-recycling society", "Numazu Flea Market Festival" was held in Kiramesse Numazu. The OKI Numazu district set up a booth in the section for the acquisition of Environmental ISO Certification to exhibit the panel of the environmental activity status, as well as distributed the OKI Group Environmental Report.

In addition, the OKI group actively participates in neighbor community activities such as participating in general cleaning of local communities.



Cleaning activity in OKI Numazu district



The OKI group consolidated our CSR (Corporate Social Responsibility) policy in the "OKI Group Charter of Corporate Conduct" based on the corporate philosophy, which is "The people of OKI, true to the company's "enterprising spirit," are committed to creating superior network solutions and providing excellent information and communications services globally to meet the diversified needs of communities worldwide in the information age." We are striving to fulfill the responsibilities towards our various stakeholders - customers, shareholders and investors, business partners, communities,

employees and others. Especially, responsibility related to the environmental conservation is one of important CSR for the OKI group as a manufacturer. If the global environment is not sustained, we cannot maintain corporate activities, nor can they grow. Under this recognition, the OKI group is working on environmental conservation activities leading to the satisfaction and reassurance of many other stakeholders including everyone in the communities of our sites inside and outside Japan, and the customers who use our products.

CSR Initiatives by the OKI Group



Contributing to the Improvement of the Quality of Life for People around the World



External Awards

Award-winning Year and Month	Recipient	Award Name (Sponsor)	Reason for the Award
10/1998	Miyagi OKI	President's Award, The 17th National Plant Greening Promotion Assembly (Japan Greenery Research and Development Center)	Production plant location with consideration to the natural environment and maintenance of seasonal trees
2/1999	Miyazaki OKI	Director's Award, Superior Energy Control Plan category, Kyushu Bureau of the Ministry of International Trade and Industry	Remarkable results in the rationalization of plant energy usage
2/1999	Miyagi OKI	Director General's Award, Superior Energy Control Plant category, Agency of Natural Resources and Energy	Remarkable results in the rationalization of plant energy usage
10/1999	Honjo district	Certificate of Appreciation for Greening Efforts (Honjo City)	Contributions to the creation of "Honjo, city of green and health"
10/1999	Hachioji district	President's Award, High Pressure Gas Safety Institute of Japan	Compliance with laws and regulations, education and drills, day-to-day operation, accident-free record, etc.
2/2000	Hachioji district	Highest Award, Kanto Region Electricity Usage Rationalization Committee	Outstanding records in electrical power usage rationalization activities
2/2000	Nagano OKI	Director's Award, Superior Energy Control Plan category, Chubu Bureau of the Ministry of International Trade and Industry	Remarkable results in the rationalization of plant energy usage
5/2000	Miyazaki OKI	Superior Award, High Pressure Gas Safety Institute of Japan	Contribution to disaster prevention and safety assurance through the promotion of voluntary safety activities for high pressure gas
11/2000	Honjo district	Certificate of Appreciation for Greening Efforts (Honjo City)	Contributions to the creation of "Honjo, city of green and health"
2/2001	Hachioji district	Highest Award, Kanto Region Electricity Usage Rationalization Committee	Outstanding records in electrical power usage rationalization activities
1/2002	Miyagi OKI	Minister's Award, Superior Energy Control category, Ministry of Economy, Trade and Industry	Remarkable results in the rationalization of plant energy usage
1/2002	Miyazaki OKI	Director General's Award, Superior Energy Control Plant category, Agency of Natural Resources and Energy	Remarkable results in the rationalization of plant energy usage
11/2002	Honjo district	Certificate of Appreciation for Greening Efforts (Honjo City)	Contributions to the creation of "Honjo, city of green and health"
1/2003	COGT (China)	Model Company for Environmental Conservation (Changzhou City, China)	Efforts for environmental conservation in Changzhou City
10/2003	Miyazaki OKI	Superior Award, High Pressure Gas Safety Institute of Japan, Miyazaki Prefecture (General) Award of the Governor of Miyazaki Prefecture (Award for Excellent Manufacturing Sites)	Remarkable success in disaster prevention and safety involving high pressure gas
1/2005	Takasaki district /Nagano OKI	IMS Project Achievements Award	Remarkable results in the development of lead-free connection technology
7/2006	Shizuoka OKI	Award of the Director of the Chubu Regional Bureau of the Ministry of Land, Infrastructure and Transport for Coastline Protection	Yearly participation of about 60 employees in cleanup activities of the Senbonhama beach as a social contribution activity of the company since 1993
12/2006	Tomioka district (MSC)	Certificate of Appreciation for polystyrene foam recycling (Japan Expanded Polystyrene Recycling Association)	For the material recycling (conversion into solid fuel) of polystyrene foamover many years
3/2007	Honjo district (MSC)	Certificate of Appreciation of the Honjo Midori-no Kikin (Honjo Green Fund) from the mayor of Honjo city	Contributions (donations) for the creation of "Honjo, city of green and health"
8/2007	Miyagi OKI	The Citation for Disaster Prevention from the Minister of State for Disaster Management 2007	Citation for the efforts to diffuse the consciousness of disaster prevention or to organize a disaster prevention system, and the remarkable achievements of disaster prevention activities in disasters
8/2007	OKI Digital Imaging	The 2nd Monodzukuri Nippon Grand Award	The world's first mass production of LED head units using epitaxial film bonding technology
12/2007	OKI Digital Imaging and OKI Data	The 5th Prize for Promoting Machine Industry, "Minister's Prize, the Ministry of Economy, Trade and Industry	The world's first mass production of LED head units using epitaxial film bonding technology
2/2008	OKI Group	Certificate of appreciation from NPO Green Earth Center	Cooperation for All-Japan School Biotope Contest



Certificate of appreciation from Green Earth Center (Mizuno, Managing Director (Right), OKI Network Integration)

Environmental Accounting

The OKI group has introduced the environmental accounting since fiscal 1999 to evaluate our efforts to the environmental conservation activities with costs and effects so that we can perform efficient activities to optimize investment effects.

Achievement of Environmental Accounting in Fiscal 2007

We tallied target sites of environmental accounting in fiscal 2007 by classifying production sites and offices in categories. The target production sites are 27 sites in total including 6 sites in OKI, 13 sites of our group companies in Japan and 8 sites of our group companies in overseas countries. As for offices, two sites were reduced from the number of target office sites in the previous year because the sites were

closed. Consequently, we tallied 17 target office sites including each branch of OKI.

In fiscal 2008, Dong Guan Site of OKI Micro Engineering (HK) and Kunshan Site of OKI Electric Technology (Kunshan) have been newly added to the tally as our group companies in overseas countries.

Environmental Conservation Costs

Investment and Cost

					(Un	it: million yen
Category		Main Activities		Investment		sts
				2006	2007	2006
Dusiness	Pollution prevention cost	Investment for pollution control facilities, and costs for maintenance and operation	96	208	964	724
Business	Global environmental conservation cost	Investment for energy-saving facilities, and costs for maintenance and operation of energy-saving facilities	267	356	402	734
area cost	Resource recycling cost	Investments in facilities for internal treatment of organic waste liquids, cost for waste recycling	102	0	748	558
Sub-total		464	565	2,115	2,016	
Upstream/downstream cost		Cost for green procurement (chemical substance surveys), cost for remodeling the aggregation system for chemical substances contained in products	98	68	408	360
Administration cost		Cost for acquiring certification, and for maintaining and managing the environmental management system	19	0	464	487
R&D cost		Investments into equipment to shift to lead-free soldering, costs for research and development on lead-free soldering	0	20	62	136
Social activity cost		Social activity cost Cost for the greening of production plants, cost for activities contributing to the community		0	3	2
Other cost Cost for reserves to respond to environmental damages		Cost for reserves to respond to environmental damages	1	0	1	2
		Total	582	653	3.053	3.002

The investments were 580 million yen (650 million yen in the previous fiscal year), which is on a decreasing trend.

Currently, the OKI group, for investments, applies a procedure to select equipment related to the reduction of environmental impacts in the event of the replacement of factory equipment and introduction of new equipment.

The introduction of the collection system for PFC in Miyazaki OKI is a new attempt for the purpose of reducing of environmental impacts on factories.

Our group companies in overseas countries have invested for the reduction of environmental impacts including the introduction of air-conditioning control devices and energysaving luminaries.

(Linit: million yon)

•For the cost, two sites of overseas production sites have been newly added, however, the cost was 3.05 billion yen (3 billion yen in the previous fiscal year), which has remained steady.

Each site in the OKI group promotes the optimization of environmental conservation costs to perform efficient activities.

Benefit Related to Environmental Conservation Cost

Economic Benefits

			(Unit. I	million yen)	
	Cotomorry	Main Activities	Effect A	Amount		
Calegory		Wall Activities		2006		
Cost	Effect from energy and resource conservation	Reduction of usage of electricity, oils, gases, packaging materials, etc. in business activities	28	-166		С
reduction effect	Effect from reduction of treatment cost	Reduction of waste through recycling, etc. in business activities	-14	20		(*
Net income effect		Sale of valuable waste generated in business activities	515	241		W
		Sales of valuable used products	342	295		en
		Total	872	391		-

Environmental Conservation Effects

Environmental Impact Indicator		Imp	Difference Compared to	
		2007	2006	Previous Fiscal Year
CO2 em (1,000 t	issions ons-CO2)	283	299	16
Waste emissions	Final waste disposal (tons)	1078	1112	34

•The economic benefits were 870 million yen (390 million yen in the previous fiscal year), which achieved drastic increases in profit.

This is because the sale value of valuable resource drastically increased compared to the previous year.

With respect to the environmental conservation effects, 16,000 tons of CO₂ emissions were reduced thanks to various energy and resource-conservation measures.

As for final waste disposal, in accordance with the change in the acceptance criteria of a waste material recycling contractor, it is difficult to recycle the wastes as before; therefore, the landfill disposal amount has increased.



Transition of Environmental Accounting

The following graphs show the transition with respect to investments, costs and economic effects of our environmental conservation activities for 9 years from the start of environmental accounting.









<Accounting Period>

April 1, 2007 - March 31, 2008

<Accounting Conditions>

- The calculation standards are based on the "Environmental Accounting Guidelines (2005 Edition)" published by the Ministry of the Environment.
 A part of the accounting includes figures relating to affiliated companies
- located within sites that participated in the environmental impact management.

(3) For costs where environmental conservation costs overlap with other costs, only the portion of the costs related to environmental conservation is counted. (4) The depreciation cost of investments is calculated using the fixed installment method for a period of three years. The economic benefit achieved with these investments is calculated for three years, in line with the depreciation period.

(5) Personnel costs are calculated by prorating the personnel costs for the total time spent on environmental conservation activities.

(6) The cost reduction effect and the environmental conservation effect are the values of the current fiscal year reduced by the values of the previous year.(7) Net income effect represents the value for the current fiscal year.



Environmental Data Sheet

The OKI group manages environmental impact data to use them for its environmental conservation activities. By using environmental accounting, the aggregation system for chemical substances and other methods, we keep track of a variety of environmental impact data, aggregating them as a company-wide data. The following shows the key results for fiscal 2007.

Detailed Environmental Accounting Data by OKI Group Company

The tables below present each environmental accounting data by OKI and its group companies in Japan and overseas.

Environmental Conservation Costs

(Unit: Thousand yen)										
			Inves	tment		Costs				
	Category	OK!	Group Co	ompanies	Total	OK!	Group Companies		Total	
		UKI	Japan	Overseas	(Consolidated)	UKI	Japan	Overseas	(Consolidated)	
Costs	Pollution prevention cost	25,008	68,437	2,234	95,679	404,616	515,219	44,276	964,111	
within	Global environmental conservation cost	134,815	123,009	8,683	266,507	68,058	330,146	4,068	402,272	
Business	Resource recycling cost	1,740	98,884	977	101,601	154,775	542,998	50,581	748,354	
Area	Sub-total	161,563	290,330	11,895	463,788	627,448	1,388,364	98,925	2,114,738	
Upstr	eam/downstream cost	83,390	7,706	7,057	98,153	147,538	236,482	24,130	408,150	
Admi	nistration cost	0	16,276	2,760	19,036	309,357	114,236	40,432	464,025	
R&D o	cost	0	0	0	0	0	62,172	100	62,272	
Socia	l activity cost	0	73	334	407	294	1,814	486	2,593	
Environmental damage cost		0	0	0	0	940	0	0	940	
Other	cost	0	0	932	932	0	0	0	0	
	Total	244,953	314,385	22,978	582,316	1,085,577	1,803,067	164,073	3,052,717	

(Unit: Thousand yen)



Economic Benefit

		Economic Benefit				
Category		OKI	Group Co	Total		
		ΟΚΙ	Japan	Overseas	(Consolidated)	
Cost	Effect from energy and resource conservation	116,858	-41,138	-47,723	27,997	
reduction	Effect from reduction of treatment costs	9,057	-22,312	-633	-13,888	
effect	Sub-total	125,915	-63,449	-48,356	14,110	
Net income effect	Amounts from selling valuable waste	50,033	696,601	110,810	857,444	
	Total	175,948	633,152	62,454	871,553	

Energy Consumption

We have been using various types of energy. The following shows the data by energy type.

Enormy Cotogony			Usage			
			2007	2006		
	Electric power	Electric power (kwh)	645,410,218	630,820,984		
	Oil	Benzine (kl)	29	56		
	•	Kerosene (kl)	51	57		
		Diesel oil (kl)	334	70		
		Heavy oil (kl)	9,687	9,860		
		Total	10,101	10,043		
	Gas	Liquefied petroleum gas (LPG) (tons)	323	350		
6°6		Liquefied natural gas (LNG) (tons)	0	0		
		Total	323	350		
		City gas (km ³)	3,206	3,188		
	Water	City water (tons)	402,564	373,566		
		Industrial water (tons)	1,861,341	2,059,568		
		Underground water / well water (tons)	3,144,027	3,116,855		
l		Total	5,407,932	5,549,989		

Major Environmental Conservation Efforts

The following table shows some major efforts related to the investments, costs and economic benefits counted in our environmental accounting.

Major Efforts on Environmental Conservation (Main 5 Sites of OKI Group in Japan) (Unit: Thousand ven)

Category	Major Efforts	Amount	Site
	Warks for air conditioning facilities	26.000	Hania district
÷	works for air-conditioning facilities	26,000	Honjo district
E	Introduction of collection system for PFC	25,233	Miyazaki OKI
str	Exchange with Inverter lighting equipment	23,100	Honjo district
Ive	Replacement of compressor of S1 building	22,000	Miyagi OKI
-	Replacement of rake in the second settlement tank at S1 drainage treatment facility	17,000	Miyagi OKI
	Maintenance and management cost for cogeneration system	191,550	Miyazaki OKI
	Personnel cost for the facility management department	189,024	Miyazaki OKI
osts	Waste collection and treatment cost	165,294	OKI Data
Ŭ	Maintenance and management cost for waste water treatment facilities	165,191	Hachioji district
	Maintenance and management cost for waste water treatment facilities	100,517	Miyagi OKI
ţ	Reduction of heavy oil consumption due to the stop of cogeneration system in accordance with rise in heavy oil price	126,327	Miyazaki OKI
onomic Bene	Improvement of packaging methods and change in packaging volume	27,609	Tomioka district
	Sale cost of waste boards	22,700	OKI Supply Center
	Sale cost of waste iron materials	21,237	OKI Erfolg
ы	Sale cost of waste iron materials	16 595	Honio district

Major Efforts on Environmental Conservation (Main 3 Sites of OKI Group in Overseas) (Unit: Thousand yen)

_			
Category	Major Efforts	Amount	Site
ent	Temperature control device of air conditioning facility equipment	3,574	OKI Data Thailand
stm	Introduction of emission gas treatment equipment	1,430	Oki Micro Engineering (Dong Guan Site)
N I	Introduction of energy-saving lights	675	Oki Electric Industry (Shenzhen)
s	Chemical cost for waste water treatment facilities	19,028	OKI Thailand
ost	Measurement cost for RoHS by X-ray equipment	15,793	Oki Telecommunications Technology (changzhou)
0	Waste treatment cost	4,460	OKI Data Scotland
	* Exchange rate: OKI Data Scotland: 226 yen/_ OKI Data Thail	and, OKI Tha	ailand: 3.61 yen/Baht

CO2 Emissions

The scope of the data counted in this report is limited to certain sites. The following table shows classified data for this limited number of sites and for other sites.

Category	Emissions (1,000 tons-CO ₂)	Site
Major OKI group production sites	221	Hachioji district, Miyazaki OKI, Miyagi OKI, Honjo district, Tomioka district, Numazu district, Takasaki district
Other sites	62	The sites in the scope of this report as described on page 45 except for the above sites
Total	283	All sites in the scope of this report as described on page 45



Progress of the OKI Group's Environmental Activities

Full-fledged environmental activities of the OKI group started with the environmental conservation activities in the 1970s. Our major production sites have been ISO14001certified since 1997, and in fiscal 2004, we built an organization for "company-wide network-type environmental management" integrating the entire group, and we also integrated our ISO14001 certification for the OKI group. In fiscal 2007, we added two group companies in China (both are production sites) to the scope of the consolidated ISO14001 certification.

Month/Year Ef	iorts (Topics)
11/1970 Established project tear	n for countermeasures against environmental pollution at the head office
1/1971 Established manager	nent rules on countermeasures against pollution
9/1973 Established a special WG to	r environmental conservation in the OES (Oki Engineering Standard) deliberation committee
6/1979 Started the head office	e environmental audit
5.	(1981 Started environmental audits at group companies
4.	(1983 Established environmental management rules
4.	(1984 Established environmental management standard (OPES)
8	/1988 Started reducing designated chlorofluorocarbons
	9/1990 Started reducing 1,1,1-trichloroethane, trichloroethylene and dichloromethane
	3/1993 Established the Oki Environmental Protection Activity Plan
	3/1993 Completed elimination of designated chlorofluorocarbons
	9/1993 Completed elimination of 1,1,1-trichloroethane
	5/1995 Established advance evaluation system for the environmental impact of product design and packaging
	12/1995 Press release on plans to acquire ISO14001 certification
	8/1996 Established the "Basic Environmental Policy" and the "Environmental Protection Activity Plan"
	2/1997 Miyazaki OKI acquired ISO14001 certification
	3/1997 Completed elimination of trichloroethylene and dichloromethane
	7/1997 Hachioji district acquired ISO14001 certification
	3/1998 Achieved the goal of all major OKI Electric production sites acquiring ISO14001 certification
	12/1998 Achieved the goal of all major OKI group production sites acquiring ISO14001 certification
	2/1999 Miyagi OKI awarded the Director General's Award of the Agency of Natural
	Resources and Energy as a Superior Resources and Energy Control Plant
	3/1999 Established the "Green Procurement Guidelines" as a corporate standard
	7/1999 Established recycling center for used products at Honjo district
	8/1999 Established the "OKI Eco Plan 21"
	9/1999 Published the first "Environmental Report 1999"
4/2000 Established Global Environ	nent Division at head office
8/2000 Disclosed environmental ac	counting in our "Environmental Activity Report 2000"
11/2000 Established company to rec	ycle used products
12/2000 Established the "OKI Eco P	oduct Registration Standard" ZUUUUS
2/2001 Started the head office safe	
5/2001 Established the "OKI Eco Pl	an 21 (version 2001)"
8/2001 Miyazaki OKI achieved zero	an reports for six sites of ON
12/2001 Constructed mass production	In line with lead-free soldering at Nagano OKI
1/2002 Mixagi OKI awarded the Minister's Award	tas a superior energy control plant from the Ministry of Economy Trade and Industry
3/2002 All production sites of the O	KI group in Japan acquired ISO14001 certification
5/2002 Established the "OKI Eco P	an 21 (Version 2002)"
3/2003 All major production plants	of the Oki group in Japan achieved zero emission of waste
5/2003 Established the "OKI Eco P	an 21 (Version 2003)"
11/2003 Acquired designation as "Cross-jurise	dictional Waste Treatment Manufacturer" from the Ministry of the Environment
3/2004 Company-wide integration of the	aggregation system for chemical substances contained in products
3/2004 Achieved lead-free soldering	in newly designed boards of information equipment in Japan
4/2004 Launched Environment Bus	iness Team
5/2004 Established a new "Environ	nental Policy"
3/2005 Company-wide consolidated	acquisition of ISO14001 certification
12/2005 Transition to ISO14001:200	4 completed
6/2006 Approved as "Cross-jurisdictiona	I Waste Treatment Manufacturer" by the Ministry of the Environment
12/2006 Consolidated OKI group ISC	D14001 certification of the Thailand area
3/2008 Consolidated OKI group ISC	0 14001 certification of the Chinese area

43 Environmental Report 2008 Reference Materials



Questionnaire Survey Results

We conducted questionnaire surveys for our customers, OKI group employees and others. The information collected by the surveys will be used for future environmental conservation activities and environmental reports of the OKI group.

Customer Voices on the Environmental Report 2007

To reflect the voices of our customers in the Environmental Report 2008 for continual improvement, we conducted a questionnaire survey on the Environmental Report 2007. In recent years, manufacturers have accounted for the greatest percentage of readers' industries, however, compared to readers in fiscal 2007, "Education and Research" is also 18% same as the Manufacturing. Students, teachers and educators are increasing each year.

Which topics did you find interesting?



Breakdown of Readers (Industries)



Environmental Report Evaluation



Environmental Report 2008 Reference Materials



Scope of Environmental Data

The scope of collecting environmental impact data and environmental accounting data includes the following business sites and group companies that have established the environmental management system.

Scope of Environmental Data

	Site	Business Outline	Address
	1 Toranomon district	Head Office	1-7-12, Toranomon, Minato-ku, Tokyo 105-8460
	②Hachioji district	Development of electronic devices	550-1, Higashi Asakawa-machi, Hachioji-shi, Tokyo 193-8550
	③Shibaura district	Development of telecommunications equipment	4-10-16 Shibaura, Minato-ku, Tokyo 108-8551
	Honjo district	Manufacturing and contract manufacturing of info-telecom equipment	4-1-1, Ojima, Honjo-shi, Saitama-ken 367-8686
	5 Takasaki district	Development of information processing equipment	3-1 Futaba-cho, Takasaki-shi, Gunma-ken 370-8585
(Japan	6 Tomioka district	Manufacturing of information terminal equipment	1256-1 Tomioka, Tomioka-shi, Gunma-ken 370-8510
	Numazu district	Development and manufacturing of traffic systems and acoustic positioning systems	688 Oo-suwa, Numazu-shi, Shizuoka-ken 410-0873
stry	8 Warabi district	Development of software	1-16-8, Chuo, Warabi-shi, Saitama-ken 335-8510
npu	9 Kansai Laboratory	Research and development	2-5-7, Honmachi, Chuo-ku, Osaka-shi, Osaka-fu 541-0053
ric	10 Hokkaido Regional Office	Product sales	3-1-44, Kita 3-jo Nishi, Chuo-ku, Sapporo-shi, Hokkaido 060-0003
lect	11 Tohoku Regional Office	Product sales	3-1-1, Ichiban-cho, Aoba-ku, Sendai-shi, Miyagi-ken 980-0811
Σi Π	Chubu Regional Office	Product sales	1-11-20, Nishiki, Naka-ku, Nagoya-shi, Aichi-ken 460-0003
0	(3) Kansai Regional Office	Product sales	2-5-7, Honmachi, Chuo-ku, Osaka-shi, Osaka-fu 541-0053
	Chugoku Regional Office	Product sales	15-10 Hatchobori, Naka-ku, Hiroshima-shi, Hiroshima-ken 730-0013
	15 Shikoku Regional Office	Product sales	1-7-5, Bancho, Takamatsu-shi, Kagawa-ken 760-0017
ľ	6 Kyushu Regional Office	Product sales	2-13-7, Tenjin, Chuo-ku, Fukuoka-shi, Fukuoka-ken, 810-0001
	⑦OKI Data (Fukushima district)	Development and manufacturing of printers, fax machines and peripherals	1-1, Shono, Tatsuda, Fukushima-shi, Fukushima-ken 960-2196
[18 OKI Printed Circuits	Design and manufacturing of printed circuit boards	1 Fukuda-machi, Joetsu-shi, Niigata-ken 942-0032
	() Nagano OKI	Design, manufacturing and contract manufacturing of electronic equipment	965-1, Mimitori, Komoro-shi, Nagano-ken 384-0084
-	②Shizuoka OKI	Design and manufacturing of measuring and control equipment	681-1 Azamihara, Oo-suwa, Numazu-shi, Shizuoka-ken 410-0873
	②Miyagi OKI	Manufacturing of semiconductor ICs	1, Okinodaira, Ohira-mura, Kurokawa-gun, Miyagi-ken 981-3693
	22 Miyazaki OKI	Manufacturing of semiconductor ICs	727 Kihara, Kiyotake-cho, Miyazaki-gun, Miyazaki-ken 889-1695
	🕲 Tama OKI	Inspection of semiconductor ICs	4-8-3, Nakanokami-cho, Hachioji-shi, Tokyo 192-0041
	24 OKI Sensor Device	Development and manufacturing of electronic components	550-1, Higashi Asakawa-machi, Hachioji-shi, Tokyo 193-8550
	25 OKI Micro Engineering	Development and manufacturing of motor solenoid	1, Sasakinotate, Fukushima-shi, Fukushima-ken 960-8057
ē	26 OKI Digital Imaging	Development, manufacturing and sales of LED units and LED heads	550-1, Higashi Asakawa-machi, Hachioji-shi, Tokyo 193-8550
apa	ØOKI Power Tech	Development and manufacturing of power supply units	1, Sasakinotate, Fukushima-shi, Fukushima-ken 960-8057
s (J	ØOKI Power Tech (Omiya site)	Sales of power supply products	1-38-1, Miyacho, Omiya-ku, Saitama-shi, Saitama-ken 330-0802
anie	②Shinsei Denki Co., Ltd.	Development and manufacturing of power supply products	38-7 lizakamachi Hirano, Fukushima-shi, Fukushima-ken 960-0231
ď	30 OKI Erfolg	Manufacturing of parts and dies, chassis manufacturing	1, Sasakinotate, Fukushima-shi, Fukushima-ken 960-8057
8	③OKI Engineering	Measurement and analysis	3-20-16, Hikawadai, Nerima-ku, Tokyo 179-0084
Ino	32 OKI Logistics	Physical distribution	1-13-5 Eitai, Koto-ku, Tokyo 135-0034
Q	33 OKI Customer Adtech	Maintenance and service	2-7-23 Kiba, Koto-ku, Tokyo 135-0042
	3 OKI Communication Systems	Design and manufacturing of telecommunications equipment and parts	1, Kamiyamaguchi, Tokorozawa-shi, Saitama-ken 359-1153
	35 OKI Supply Center	Parts management, product recycling	4-1-1, Ojima, Honjo-shi, Saitama-ken 367-8686
	36 OKI Environment Technologies	Design, installation, maintenance and management of environmental facilities	550-5, Higashi Asakawa-machi, Hachioji-shi, Tokyo 193-8550
	③OKI Network Integration	Design and development of networks	1-2-21, Etchujima, Koto-ku, Tokyo-to 135-0044
	38 OKI Development	Management and construction of real estate	1-24-4, Nishigotanda, Shinagawa-ku, Tokyo-to 141-0031
	③O F Networks Co., Ltd.	Design and development of communications equipment	1-3 B-13, Nakase, Mihama-ku, Chiba-shi, Chiba-ken 261-0023
	<pre>④OKI (UK)</pre>	Manufacturing of printer and fax consumables	1 Oki Way, Wardpark, Cumbernauld, G68 0FQ, UK
	(I)OKI (Thailand)	Manufacturing of semiconductor ICs	Rojana Industrial Park, 1/39 Moo 5, Tambol Kanham, Amphur U-Thai, Ayutthaya 13210
nies ies)	OKI Data Manufacturing (Thailand)	Manufacturing of printers and fax machines	Rojana Industrial Park, 1/39 Moo 5, Tambol Kanham, Amphur U-Thai, Ayutthaya 13210
mpa	43 Changzhou OKI-GEG Telecoms Ltd.	Manufacturing and contract manufacturing of communications equipment	93 Qingtan Road Changzhou City, China 213015
S CO	40KI Electric Industry (Shenzhen)	Manufacturing of information processing equipment and printers	No.6, Baiwangxin industry area, Baimang, Xili, Nanshan district, Shenzhen 518108, China
othe	45 OKI Precision (Thailand)	Manufacturing and sales of print heads for printers	Nothern Region Industrial Estate, 89/3 Moo 4, Tambol Banklang, Amphur Muang, Lamphun 51000
ື	6 OKI Electric Technology (Kunshan)	Manufacturing, sales, and export of keyboards	Kunshan Hi-tech Industrial Park, Yucheng Road, Kunshan City, Jiangsu Province, China
	DongGuan TangXia OKI Micro Engineering Factory	Assembling and manufacturing of motors	No.C1/C2 ke YuanCheng Industrial Park, TangXia, DongGuan, Chna



Thank you very much for reading the OKI group's environmental report.

· Please feel free to contact us for any opinions or inquiries.



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