



OKI GROUP
ENVIRONMENTAL
REPORT

2016

Company Profile / Editorial Policy

Company Profile

■ Profile

Corporate Name: Oki Electric Industry Co., Ltd.
Founded in: January 1881
Company Established: November 1, 1949
Capital: 44 billion yen
Employees: 20,190 (Consolidated),
 3,914 (Non-consolidated)
Head Office: 1-7-12 Toranomon, Minato-ku, Tokyo
 105-8460, Japan
 TEL: +81-3-3501-3111

■ Business Segments

ICT

The OKI Group offers social infrastructure solutions for aviation, railway, highway, communication, financial and other applications based on IoT technologies.

Mechatronics Systems

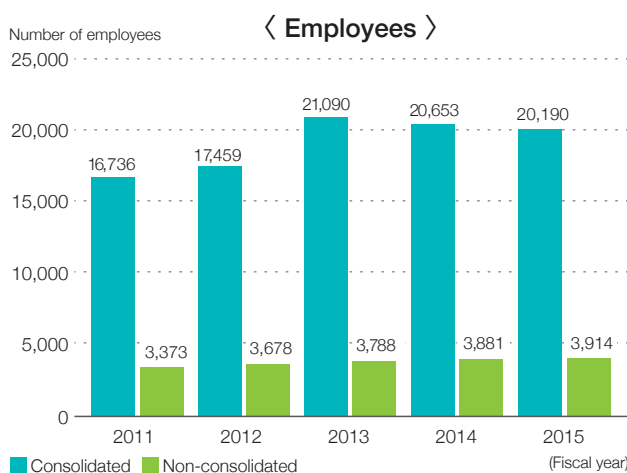
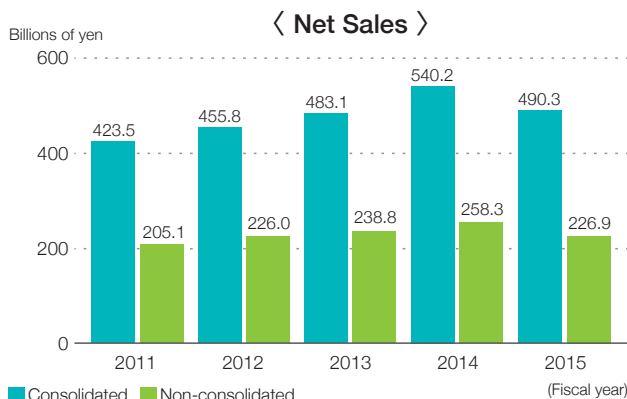
The OKI Group supplies various products built around mechatronics systems to financial institutions, retail and service, transportation and other industries, including ATMs, cash handling equipment and issuing terminals.

Printers

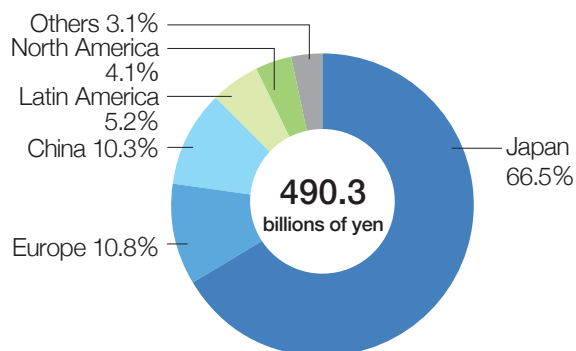
The OKI Group manufactures printers for business use by utilizing its LED technology, and distributes them throughout the world.

EMS and Others

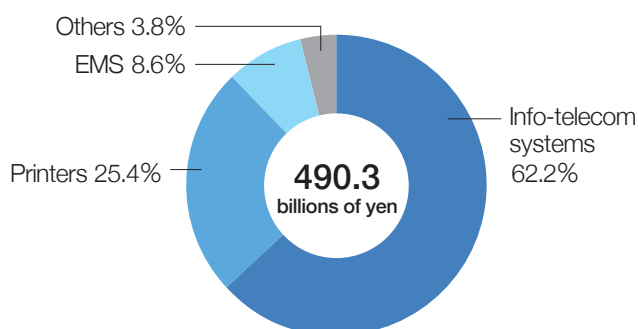
The OKI Group offers EMS (Electronics Manufacturing Services) and other services, based on its highly sophisticated design and production expertise developed within the group.

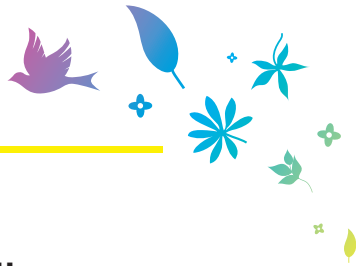


< Net Sales by Market in fiscal 2015/Consolidated >



< Net Sales by Business Segment in fiscal 2015/Consolidated >





Editorial Policy

- The OKI Group “Environmental Report” is compiled and published to inform all our stakeholders of the concept, overview, major initiatives and data of the OKI Group environmental management.
- Please see our website for detailed information including initiatives not appearing in this report.
<http://www.oki.com/en/eco/>

■ Reference Guidelines

- Sustainability Reporting Guidelines Version 4.0 (GRI)
 - Environmental Reporting Guidelines 2012 (Ministry of the Environment)
 - Environmental Accounting Guidelines 2005 (Ministry of the Environment)
- * GRI (Global Reporting Initiative):
 An international NGO that develops and disseminates globally applicable sustainability reporting guidelines.

■ Time Period

This report covers fiscal 2015 (the year from April 1, 2015 to March 31, 2016). However, the report also discusses some facts preceding this period, as well as policies and plans to be implemented in subsequent periods.

■ Organizations

The report covers the activities of Oki Electric Industry Co., Ltd. (OKI), and its 89 consolidated subsidiaries. However, the environmental data covers OKI’s 15 locations and 76 subsidiaries (32 in Japan and 44 overseas).

■ Corporate Names / Names of Organizations

In this report, Oki Electric Industry Co., Ltd. itself is referred to as “OKI,” and its corporate group, including its subsidiaries and affiliates, as the “OKI Group.” The names of the organizations referred to in this report, in principal, are those used as of April 2016.

* The listed corporate names and product names are trademarks or registered trade names.

■ Forecasts, Plans and Targets

This report also details forecasts, plans and targets. They reflect assumptions and judgments based on information available at the time of writing this report. Thus, readers are requested to understand that the future results of the company’s activities could be different from what is described in this report.

■ Reliability of Disclosed Information

Experts within the Group verify the data aggregated from technical knowledge to ensure the accuracy of disclosed information.

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For a Safe and Secure Society

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<For inquiries>
 Oki Electric Industry Co., Ltd.
 Global Environment
<http://www.oki.com/en/eco/ecoreport/2016/>

Basic Policy for the Environment

Taking environmental issues into consideration, the OKI Group has developed the “OKI Group Environmental Policy”. The “Environmental Vision 2020” comprises four themes and is established as the mid- to long-term target of the Policy. We have planned and are executing specific activities with respect to “Realization of low-carbon societies”, “Prevention of pollution” and “Resource circulation”, which have the closest relation to our core business. Through these activities, we will also contribute to the “Biodiversity conservation”.

OKI Group Environmental Policy

The OKI Group achieves a better global environment by providing products and services that contribute to the development of the information society for the next generation, and inherits this within the group.

1. Aim to maximize measures' effects by implementing the OKI Group environmental management.

- Take actions to provide environment-friendly products and services in all business processes through product planning, manufacturing and maintenance operation.
- In the business activities, strive to save energy/resources and take actions to reduce and recycle wastes.
- Work on the biodiversity conservation and sustainable use.

2. Comply with applicable environmental legal requirements and regulations, and with customer requirements and other requirements to which the OKI Group subscribes, 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 its operation system.

4. Disclose environmental information, and make wide contribution to the society by supporting environmental activities.



President
OKI Electric Industry Co., Ltd.



OKI Group Environmental Vision 2020

1. Realization of low-carbon societies

Maximize energy consumption efficiency in the business operations, and reduce energy consumption by 8% per nominal sales (corresponds to 12% reduction per real sales) from fiscal 2012. Contribute to the realization of low-carbon societies by continuously providing environmentally friendly products and services.

2. Prevention of pollution

Reduce emission of chemical substances, that can adversely affect people's health and environment, into the atmosphere and water system by 8% per nominal sales (corresponds to 15.5% reduction per real sales) from fiscal 2012.

3. Resource circulation

Increase the amount of recycling of used products by 25% from fiscal 2012. In addition, minimize the new input resources through expanded recycling of waste materials, reduced input material during production and promotion of environmentally friendly designs.

4. Biodiversity conservation

Engage in conservation and sustainable use of biodiversity through prevention of global warming, prevention of air and water pollution caused by chemical substances, expansion of recycling processes and minimization of new input resources.

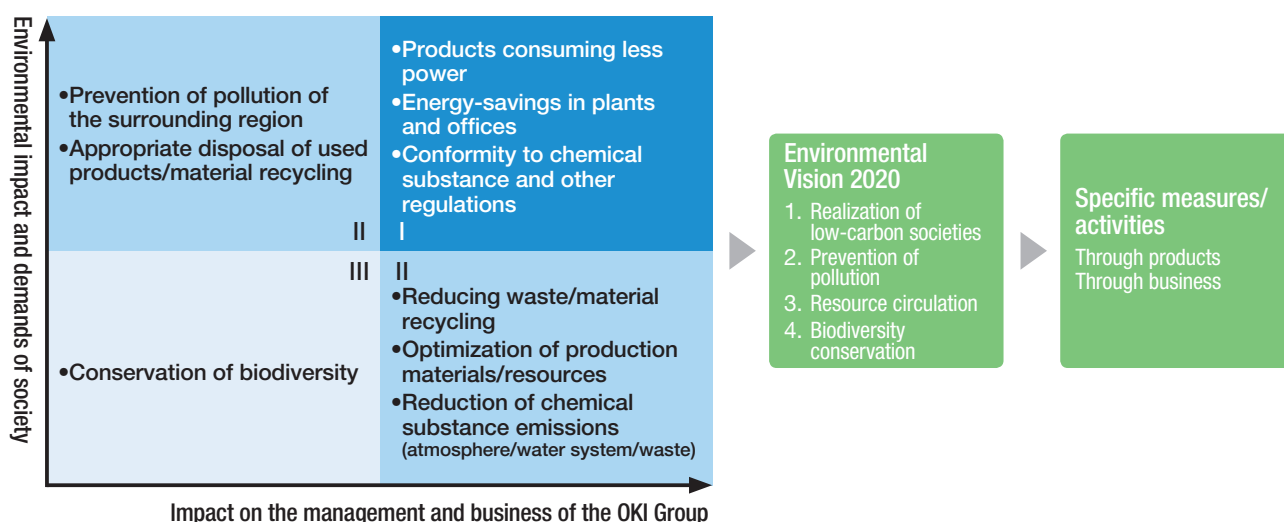
Policy—Vision—Activity Plan Relationship



Relationship between Environmental Management and Business

The environmental management of the OKI Group has established and acts on the Environmental Vision 2020 and specific measures having analyzed important environmental issues from the perspectives of both “environmental impact and demands of society” and “impact on management and business.”

Materiality Analysis (Important Environmental Issues)



Specific Measures and Activities (2015 Results)

Category	Activity Content	Fiscal 2015 Targets→Outcome	Details
Realization of low-carbon societies			
Products	Development of energy-saving products	5 or more products → 7 products (reduction of over 50% in comparison to conventional products)	P6-10,13
Business activities	Energy-savings in business locations (plants and offices)	Reduction of 8% or more → 1% reduction (consumption vs FY2012*1)	P6,11,13-15
Prevention of pollution			
Products	Development of products complying with regulations on chemical substances in products	30 or more products → 49 products	P6,9
Business activities	Reduction of chemical substance emissions from plants (atmosphere/water/soil)	Reduction of 7% or more → 3.2% reduction (consumption vs FY2012*2)	P6,11,13
	Compliance with chemical substance related regulations (atmosphere/water/soil)	Compliance with legal audits; zero legal violations → achieved	P12
Resource circulation			
Products	Recycling of used products	Over 4,000t → 3,330t	P6,13,14
	Development of easily recyclable products	20 or more products → 30 products	P6
Business activities	Reduction and appropriate disposal of waste	Implement zero emissions at 11 sites in Japan → achieved	P6,11,13,14
Common			
Biodiversity conservation	Realization of low-carbon societies / Prevention of pollution / Resource circulation	Promotion of the above initiatives	Website*3
Employee education	Implementation of training based on in-house needs	Comprehension level 95 points → 95 points (14 lectures conducted)	P12

*1 Energy consumption (converted in crude oil: k2) / consolidated sales (100 million yen) *2 Chemical substance emissions (t) / output (100 million yen)

*3 [Efforts for Conserving Biodiversity](http://www.oki.com/en/eco/management/biodiversity.html) <http://www.oki.com/en/eco/management/biodiversity.html>

Incorporating Safety and Security Environmental Activities through Life-cycles

As a business that supports social infrastructure, the OKI Group provides safety and security to our customers and to society through diligence in reducing environmental impacts and regulatory compliance across each process in the product life-cycle.

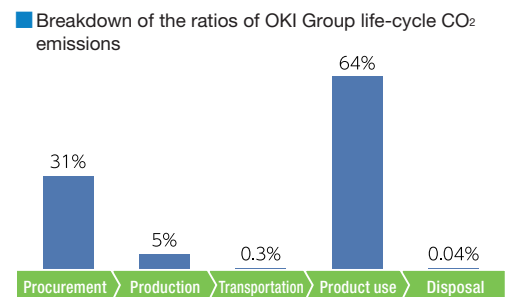
Environmental Activities of the OKI Group from the Perspective of Life-cycle

	Procurement	Production	Transportation	Product use	Disposal
Low-carbon societies	<ul style="list-style-type: none"> • Selection of energy-efficient components • Reduction in transportation frequency through bulk purchase 	<ul style="list-style-type: none"> • Improvement of production efficiency • Re-examination of facility operations • Renewal of production facilities 	<ul style="list-style-type: none"> • Modal shifts • Optimization of product loading • Reductions in size and weight 	<ul style="list-style-type: none"> • Energy-saving products • Use of remote maintenance • Simplification of organization 	<ul style="list-style-type: none"> • Shortening of product recovery routes • Use of Biomass-based Plastics
Prevention of pollution	<ul style="list-style-type: none"> • Procurement of components and materials that do not contain hazardous substances 	<ul style="list-style-type: none"> • Reduction of chemical substance usage and emission • Prevention of mixing hazardous substances • Adoption of replacement substances 	<ul style="list-style-type: none"> • Adoption of packing materials that do not contain prohibited substances 	<ul style="list-style-type: none"> • Reduction in the quantity of chemical substances used in products and packing materials 	<ul style="list-style-type: none"> • Reduction in the quantity of chemical substances used in products and packing materials
Resource circulation	<ul style="list-style-type: none"> • Optimization of procurement • Reuse of packing materials 	<ul style="list-style-type: none"> • Optimization of input materials • Optimization of input resources • Recycling of waste 	<ul style="list-style-type: none"> • Simple packing • Reuse of transportation materials 	<ul style="list-style-type: none"> • Extension of product lifespan • Reduction of maintenance components 	<ul style="list-style-type: none"> • Recycling of used products • Design for simple recycling • Reductions in size and weight

OKI Group Life-cycle CO₂ Emissions

Life-cycle CO₂ Ratios (FY2015)

The OKI Group conducts surveys of life-cycle CO₂ in order to ascertain CO₂ emissions across the supply chain in Japan and overseas. The result of these surveys was that approx. 2 million tons of CO₂ are emitted by the Group as a whole. It was found that product use comprised 60% of these CO₂ emissions. Further improvements in product energy conservation performance are required while continuing to satisfy customer needs. The OKI Group is implementing measures to promote energy-saving products and other environmental impact reductions.



Company Program for the Promotion of Energy-saving Products

Outline of the OKI Eco Products Certification Program

The OKI Group has introduced a program to certify products with excellent environmental performance as "OKI Eco Products". With regards to energy conservation performance, we are promoting the development of energy-saving products, such as with a three-level standard for energy conservation, with the top level indicating conservation of 50% or more over conventional products.

FY2015 Outcomes (Product Energy Saving Results)

Target	Over 5 products developed (50% or lower power consumption than conventional products)
Result	7 OKI Eco Products Double Plus registered

See: <http://www.oki.com/en/eco/product/ecoprod.html>

Outline of the OKI Eco Products standards

Company-wide standards
Energy conservation Resource saving Recyclability Restriction of hazardous substances, etc.
Standards by product group
Communications devices ATMs and other information processing terminals Printers

Logos for each energy conservation effect



Energy-saving effect ↑

Improved Environmental Performance Promoted in Cash Handling Equipment

Equipment for the management of deposits and withdrawals, change and other forms of cash have functions for the management of notes and coins, and functions relating to usability for the human operator. While improving these functions in response to feedback from our customers, OKI also emphasizes the environmental functions of low power and resource consumption as elements indispensable for safety and security.

Energy Savings from the Aspects of “Business and Equipment”

In the back-office of stores where cash transactions proceed smoothly, people are responsible for the management of cash, including the preparation of change, inputting sales, and settlement work. These days, a single manager is often responsible for the sales and change management of several stores in small-scale enterprises, and the extent of such work and securing personnel to handle the cash have become an issue. Furthermore, conventional teller machines that streamline cash management required a large space, making installation in small stores a problem.

The key to contributing to both the resolution of this issue and reducing environmental impact is the reduction of size of teller machines. OKI has now newly developed the “USCOS II-CV”, a withdrawal/deposit machine for narrow spaces of width 42cm —half that of conventional apparatus—which is also equipped with the basic functions of a conventional withdrawal/deposit machine. Operations such as deposits, withdrawals and preparation of change can be performed easily from an intuitive screen, dramatically reducing the work of administrators involved in cash management.

Furthermore, **power consumption is reduced to approximately half in comparison to the conventional “USCOS II”** due to the reduced size of the apparatus and other improvements. Introducing the “USCOS II-CV” can reduce visits by store administrators and in doing so contribute to the **reduction of CO₂ emitted by work vehicles.**



Katsuhiko Machida Cash Processing Systems Division,
Mechatronics Terminal Systems Division,
Mechatronics Systems Business Division, OKI

We have repeatedly innovated the stability necessary for machines that handle cash itself. Since “USCOS II-CV” eliminates the need to take cash to night depository safes, we expect it to lead to reduced workloads for administrators.



The withdrawal/deposit machine “USCOS II-CV” for narrow spaces, equipped with basic conventional functions in a single unit 42cm in width

Standby Power Holds the Key to ATM Energy-Savings

OKI is also actively working to reduce the power consumption of ATMs while in standby mode. “BankIT Pro” for financial institutions and the “CP21Z” for convenience stores have greatly reduced power consumption while in standby in comparison to conventional models, such as by incorporating **energy-saving technologies that can manage the power of peripheral units individually**, while also ensuring there is no impact on customer operations by starting up instantaneously from standby. As a result, **“BankIT Pro” achieves a maximum of 75% and the “CP21Z” a maximum of 60% reduction in power consumption.**

In addition, our ATMs are equipped with the latest technologies for power consumption reduction, including power-saving CPUs, LED back-lighting for display areas, and SSD* memory devices.



“BankIT Pro” (left) and “CP21Z” greatly reduce power consumption while in standby.

* SSD (Solid State Drive): A memory device utilizing flash memories as its data recording medium.



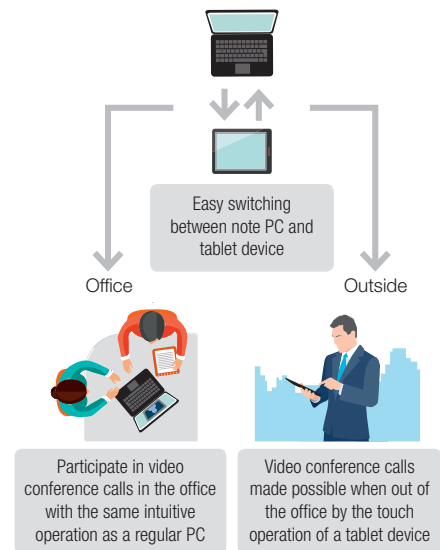
Ecology with respect to Communications Devices

Recently the contribution to the prevention of global warming by the application of IT and the reduction of environmental impact of IT apparatus itself have come under the spotlight. This section introduces teleconference systems as an example of the former and multi-function telephones as an example of the latter.

Technology for Both Energy-saving and the Smooth Execution of Meetings

OKI's video conference system "Visual Nexus" supports features including a picture quality suitable for important decision-making, a low network load, and the ability to connect to many sites inexpensively. As such it has been brought in by many of our customers. The system is also utilized in group training, which can involve the significant cost and environmental burden of transportation.

OKI was highly evaluated for this system, having been **awarded the "2015 Japan Desktop Video Collaboration Vendor of the Year"** by Frost & Sullivan in the "2015 Japan Excellence Awards".



The latest Visual Nexus video conferencing system contributes to greater CO₂ savings with enhanced support for tablet devices and greater versatility.

Contribution to a reduction of over 2,000 tons CO₂ emissions per year

All the "Visual Nexus" systems introduced to date have contributed to a total reduction in CO₂ of over 2,000 tons. **The most recent edition has enhanced support for tablet devices. Improved user friendliness has increased its potential for utilization, further contributing largely to environmental impact reductions.**

See: <http://www.oki.com/en/visualnexus/products/index.html>

Biomass-based Plastics : A New Technology Developed from Tiny Components

The buttons of a telephone are pressed by a human finger tens of thousands of times in the long period from when the phone is delivered to the customer until its disposal. High environmental performance biomass-based plastics is employed in OKI's latest telephones as the multifunction buttons called "Quad key", one such component that must be reliable.

While this material has attracted attention for its **low emission of carbon dioxide**, it presented technical issues from the perspectives of strength and processing method. As a result of having employed analysis tools and the like in the design stage and repeated trials and improvements together with collaborating companies in the prototype stage, OKI has succeeded in **building the technology and production system to employ bioplastic as component for telephones.**

These Quad keys are used in the multi-function telephone "MKT/IP-30DKCL" that commenced shipping in October 2015.



Kohei Nosaka Packaged Technology Division, Platform Development Center, ICT Business Division, OKI

We innovated repeatedly in many areas including structural designs to satisfy strength standards, elaborate simulations by analysis software into methods of pouring the raw material into the mold, and methods of removing the product from the mold without damaging it. Moving forward, we will promote technical development to employ biomass-based plastics in even more components.



The new multifunction telephone "MKT/IP-30DKCL" employs Quad key made from biomass-based plastics, the first components certified by Japan BioPlastics Association.

Improved Environmental Performance Delivered by Barrier-free Maintenance

Reliability is in the DNA of OKI Group products. The reliability of the business LED multifunction printer “COREFIDO” contributes to ease of maintenance and reductions in resource consumption, providing benefits to both the customer and the environment. Here we showcase another theme: chemical substance management and the environmental performance of COREFIDO.

Durability Contributes to Business Efficiency, Conservation of Resources and Energy Savings

Freedom from irritation and time wasted until the maintenance staff arrives—this is one of the benefits first experienced by the users of “COREFIDO”. The simple LED mechanism enables OKI to provide a free five-year warranty for the COREFIDO. While the COREFIDO naturally offers the benefits of ease of maintenance, **user-friendliness and low running costs**, it also contributes to **lower environmental burdens through reducing resource consumption due to replacing parts and reducing CO₂ emissions as a result of dispatching maintenance staff**.

As a result of repeated evolution, the third-generation “COREFIDO3” has a “maintenance barrier-free design” that allows customers to deal with problems in the event they occur. Support for problem-solving by the customers themselves has been further enhanced through the application of cloud technologies and smartphones in addition to pictures and animations on the large control panel.

The durability of the COREFIDO3 realizes “user-friendliness”, “cost benefits” and “improved environmental performance” by way of maintenance solutions.

The above products are not sold in some areas.



Easy-to-follow troubleshooting methods are illustrated by picture or animation on the large control panel. CO₂ emissions resulting from the dispatch of maintenance staff are reduced by linking with cloud services and smartphones

10 Years Since the Enactment of RoHS: Diversifying Chemical Substance Regulations

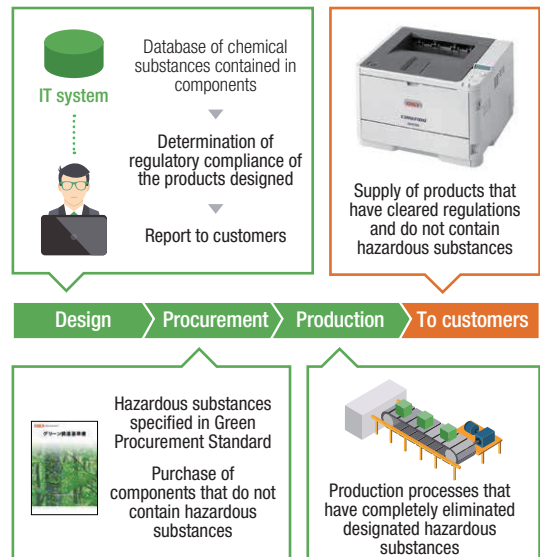
The RoHS directive was enacted on July 1, 2006. Over ten years have passed since the regulation of chemical substances contained in products began in Europe. The OKI Group has responded rapidly to the regulation of chemical substances, and has since met the requirements of the European RoHS Directive, REACH regulations, Directive on Packaging and Packaging Waste, the regulations of each country, along with the requirements of our customers.

Safety and Security from Both Components and Toners

Under the complex and frequently-changing regulations, the OKI Group has developed the IT system “COSMOS” to effectively manage the increasing number of regulated substances with respect to a vast number of components. OKI Data has made full use of this in the global development of its multifunction printer business and promoted advanced initiatives.

At the same time, we have prepared Green Procurement Standard, and purchase only the components and materials that meet them. Furthermore, we deliver products to our customer that have passed through a **strictly-managed production line**. The meticulous safety and security of the OKI Group can be experienced in our components and products both during use and disposal.

Green Procurement Standard <http://www.oki.com/en/eco/procurement/>





Social Infrastructure that Contributes to the “Prevention of Global Warming” and “Responding to Climate Change”

“Preventing global warming” through the reduction of greenhouse gas emissions, as represented by energy-saving, afforestation and other initiatives. Responding to climate change with the aim of preventing or mitigating the effects of advancing climate change. Here we present a case study of the former as illustrated by a building management system and one of the latter in the form of landslide disaster surveillance system.

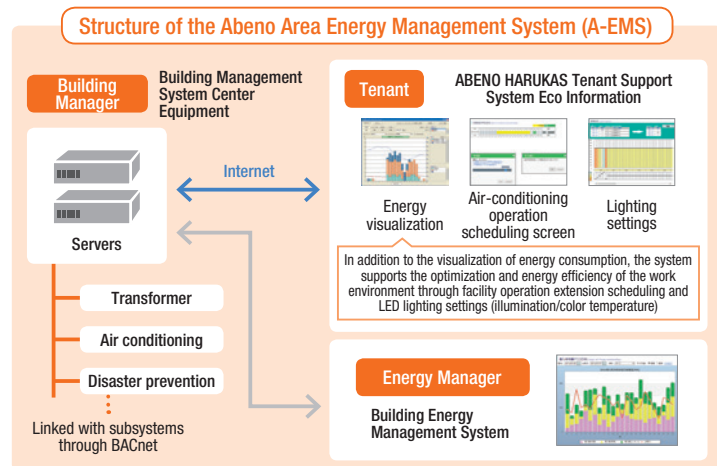
Smart Energy Management in Large Buildings

At ABENO HARUKAS, the tallest building in Japan, the “Abeno Area Energy Management System” (A-EMS) supports the visualization and control of energy use. A-EMS was supplied by OKI Wintech, which primarily oversees electricity and communications works at the OKI Group. In addition to the contribution made by A-EMS to the achievement of energy consumption and CO₂ emissions reductions, KINTETSU REAL ESTATE Co., Ltd which manages the building, has experienced a clear result of the system to be the reduction on manager workload through the visualization of energy consumptions, etc.

The system enables smooth control and management through the **monitoring of data in the central monitoring room on the operation status and energy consumption conditions of all equipment in real time** at as many as 300,000 points within the facility. Furthermore, the system is equipped with functions that enable **tenants to confirm energy consumption conditions at any time** without creating work for the managers. The high awareness of the tenants resulting from such functionality and the excellent environmental performance of the building has contributed to clearing the initial CO₂ reduction target of a **25% reduction from emissions hypothesized for a building of a similar scale**. It is now possible to pursue the “elimination of waste” and the “prevention of global warming” without compromising the amenity of the facilities.



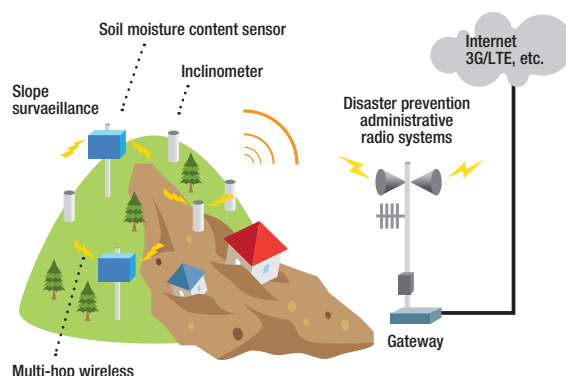
ABENO HARUKAS, the tallest building in Japan, towers above the Abeno Tennoji area in Osaka



Long-term Operation and Instantaneous Alerts — Integrated Technologies for Landslide Disaster Surveillance

Landslide disasters have occurred frequently in recent years and are said to be caused by abnormal weather. Landslide alert systems used to face issues such as high installation costs, short service lives and detection errors. OKI focused on these issues and developed the “Slope Surveillance System”.

This system provides long-term surveillance and issues instantaneous alerts when needed through the integration of various technologies. These include “**slope sensor modules equipped with battery-operable low-power multi-hop wireless technology**”; “**sleep routers**” that achieve battery-operable low-power communications, and eliminate the necessity of power construction work by conducting minimum communications only when necessary and pausing for the rest of the time; and which do not require power construction work; and “**energy harvesting**”, which removes the necessity of changing batteries and lengthens the service life of systems through the application of solar energy.



Instantly detects and reports slope failure in real time by 920MHz band wireless multi-hop communication. Achieved by integrating sensor, communications, battery and other technologies

Reducing Environmental Impact as Practiced in the Manufacturing Process

Equally important as the environmental performance of the products is the reduction of environmental impact in the process for their manufacture. The OKI Group responds to the needs of our customers while improving environmental quality at our factories. Here we present initiatives in our consigned manufacturing service (EMS: Electronics Manufacturing Services) as a case study of such.

“Solder Revolution” Yields Reduction of 70% in Power and Resource Consumption

Nagano OKI has made **innovative reforms to their manufacturing line and reduced power consumption by 74% and the amount of solder used by 70% in the process of soldering electrical components to printed circuit boards.** This production reform—or “solder revolution”—is led by the “point DIP” machines brought into the printed circuit board assembly line.

Until now the entire printed circuit boards had been dipped into a solder tank and the components then soldered on, requiring a large amount of power to melt the solder. The newly-introduced point DIP machines have enabled pin-point soldering at the exact locations necessary, drastically reducing the consumption of electricity and solder.



Point DIP machines that solder the exact locations necessary have reduced environmental burden by 70% at Nagano OKI

Newly-designated Hazardous Substances Reduced to Zero

OKI Printed Circuits (OPC) Ome factory is promoting the elimination of hazardous substances in the manufacturing process.

Among other chemicals, 1,4-dioxane was used in the circuit board manufacturing process to form circuit patterns on the circuit boards using photographic technologies. We have responded to the recent designation of such substances as hazardous materials by recovering all boards containing them. After this substance was used, its detoxification used to be outsourced as industrial waste. However, recently, the factory has moved forward with replacing this chemical in stages, and is **forecast to establish a “dioxane-free” production process within this year.** We are working to eliminate the risk of pollution while maintaining the high density circuit products demanded by our customers.



The OPC Ome factory is promoting the elimination of hazardous substances and the economization of cleaning water

Water Conservation by Improving the Water Quality of Well Water

The OPC Ome factory is also actively promoting the reduction of the use of underground water as part of our resource-saving activities. The factory pumps up 350 tons of underground water per day to wash printed circuit boards. However, we have succeeded in saving 190 tons of water—over half the total volume.

Up until now, when the underground water pump was stopped, the pumped-water became cloudy when it was next operated, so the pump was operated continuously to maintain quality, pumping up more water than was necessary. This was changed, and a control system was introduced using a water quality sensor and an automatic switching valve to send water to a storage tank at the stage it had cleared after resuming operation, to enable intermittent pumping. This reduced the groundwater pumping volume to 170 tons per day. In addition, a **water-saving method of washing the circuit boards was introduced**, achieving a further reduction of over 20 tons water consumption per day.



The use of well water was reduced and water quality was maintained by combining a water quality sensor (left) and piping incorporating an automatic switching valve

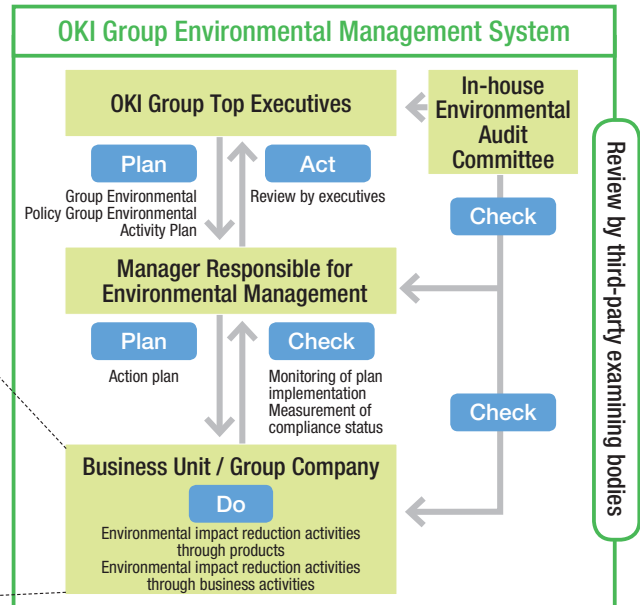
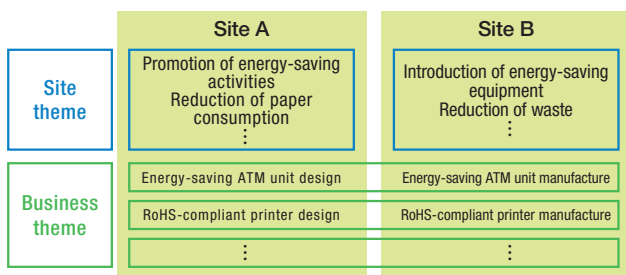
Environmental Management-related Information

The OKI Group acquired combined ISO14001 certification* for all companies in fiscal 2004 and is expanding the scope of the certification every year from the perspective of the total optimization and the improvement of governance of the Group. We implement the PDCA cycle to share and adjust targets and measures, legal information, training, internal audits, external reviews and the like.

*The scope of the combined ISO14001 certification can be viewed on the OKI website. <http://www.oki.com/en/eco/management/envmanagement.html>

Structure of the Environmental Management System

The OKI Group environmental management system has built structures for themes relating to business sites (site themes) and themes relating to product development (business themes), and promotes a PDCA cycle. Information on the two themes is combined to efficiently promote the environmental management of the whole Group.



TOPIC Employee Education

OKI implements environmental training with the aim of maintaining or improving legal compliance and management. The recipients of the training are not limited to environmental officers at each site, but are broadly defined across the entire OKI Group to include designers, sales representatives, and manager. E-learning and group training is conducted with over 10,000 employees participating each year. In order to respond to the **diverse needs of such recipients, a full range of courses, teaching materials and surveys have been prepared to increase the effectiveness of training.** As an example of such training, in fiscal 2015 **many employees participated in a waste disposal method seminar and took lectures on legal practices, sharing case studies on issues that tend to occur.**

First half	<ul style="list-style-type: none"> • General environmental education by e-learning • Internal auditor training (S-class, refresh, nurturing) • Training on chemical substances in products • Seminars on waste disposal methods • Seminars on environmental regulations • EMS office seminars • Eco inspection seminars
Second half	<ul style="list-style-type: none"> • Technical environmental education by e-learning • Seminars on waste disposal methods

Responses to Environmental Pollution, etc.

Pollution of Groundwater and Soil

The OKI Group installed observation wells at business locations, and is monitoring groundwater. Also, the results of a past survey found environmental pollution in the soil and groundwater at several business locations. This finding was reported to the government, and appropriate measures are currently being taken to prevent the contaminated soil and water from spreading into other areas and groundwater.

Subsequent and Extraordinary Events

There were no extraordinary events during the period of this report and no serious subsequent events after the period of this report.

Social Contribution Activities and External Awards

The OKI Group promotes social contribution activities. These appear on our website together with external awards.

External awards <http://www.oki.com/en/eco/management/awards.html>

Consideration for the Environment – Detailed Data

Overview of Environmental Impact through Business Activities

Material Balance

From this year, the material balance for the OKI Group is newly presented from the perspective of life cycle. With the scope including new production sites, etc., we aim to expand and improve the coverage (differences with the previous year are also re-aggregated).

INPUT				Source	OUTPUT			
		Fiscal 2015 / On previous Year					Fiscal 2015 / On previous Year	
Energy				Business Activities (Development / Production, etc.)	Greenhouse Gases			
Electricity	[100 million kWh]	1.60	(-0.03)		Greenhouse gases due to business activities [10,000t-CO ₂] 9.37 (-0.33)			
Heavy oil	[kℓ]	665	(-4)		CO ₂ [10,000t-CO ₂] 8.98 (+0.45)			
Gasoline	[kℓ]	0.77	(-0.06)		Other greenhouse gaseses (PFC, etc.) [10,000t-CO ₂] 0.38 (+0.11)			
Kerosene	[kℓ]	47	(-13)		Smoke and Soot			
Light oil	[kℓ]	99	(+18)		NOx [t] 3.84 (+0.09)			
City gas	[km ³]	1,744	(-2)		SOx [t] 3.59 (-0.04)			
LPG/LNG	[t]	160	(+1)		Chemical Substances			
Crude oil equivalent total*1	[kℓ]	44,291	(-1,052)		PRTR (emitted) [t] 17 (+7)			
Water					Transportation	PRTR (transferred) [t] 44 (+40)		
Chemical Substances				Waste				
Substance subject to PRTR*2 [t] 147 (+67)				Product Use	Total generated [t] 11,505 (+697)			
Energy					Recycled [t] 8,728 (+852)			
Fuel (light oil, etc.) [GJ] 136,569 (+11,269)					Final disposal [t] 573 (-58)			
Energy				Disposal	Atmosphere			
Electricity [100 million kWh] 24.4 (-7.4)					CO ₂ [10,000t-CO ₂] 0.93 (+0.08)			
Used Product Reclamation				NOx [t] 465.33 (+60.03)				
Amount handled [t] 3,328 (+961)				SOx [t] 0.17 (+0.02)				
				Atmosphere				
				CO ₂ [10,000t-CO ₂] 128.2 (-40)				
				Used Products Recycling				
				Material recycling rate [%] 99.6 (+0.2)				

*1 Changes in energy consumption (converted in crude oil) appear on our website. http://www.oki.com/en/eco/business/greenhouse_gas.html

*2 Details on substances covered by PRTR (a notification system for chemical substance emissions appear on our website.

<http://www.oki.com/en/eco/business/chemical.html>

*Initiatives to reduce environmental impact in each process are outlined on P6 of this report.

SCOPE3

CO₂ Emissions for fiscal 2015 for the entire supply chain of the OKI Group in Japan and overseas are as follows.

SCOPE 1	Emissions:	SCOPE 2	Emissions:	SCOPE 3	Emissions:
Emissions directly resulting from the use of fuel and manufacturing processes at OKI	11,000t Ratio: 0.5%	Indirect emissions consequent on the use of electricity and heat purchased by OKI	78,000t Ratio: 3.5%	Indirect emissions in the supply chain	2,170,000t Ratio: 96.0%

CO₂ Emissions by SCOPE3

Category	Emissions in FY2015		Method of Calculation
	10,000t CO ₂	Ratio	
SCOPE3, Upstream			
1 Purchased goods and services	61.2	28.2%	Monetary values for goods and services purchased or acquired by the Group × Emissions unit value by item
2 Capital goods	6.0	2.8%	Monetary values of investment for capital goods the Group purchased × Emissions unit value by item
3 Fuel and energy related activities not included in Scope 1 or 2	0.6	0.3%	Amounts of usage of electricity, steam, cold water, and hot water × Emissions unit value
4 Transportation and delivery (upstream)	0.6	0.3%	Ton-kilometers transported × Unit value by means of transport + Transport costs × Unit value by means of transport
5 Waste generated in operations	0.4	0.2%	Amounts of processed/recycled waste × Emissions unit value
6 Business travel	0.3	0.1%	Number of employees × Emissions unit value
7 Employee commuting	0.9	0.4%	Number of employees × Working Days × Emissions unit value by Working arrangements and Urban classification
8 Leased assets (upstream)	1.3	0.6%	Power consumption of the Data center we rent × Emissions unit value of Power company
SCOPE3, Downstream			
9 Transportation and delivery (downstream)	-	-	Not covered.
10 Processing of sold products	17.3	8.0%	Sales turnover of Intermediate products × Emissions unit value
11 Use of sold products	128.2	59.1%	Hypothetical durable years of products × Annual power consumption × Number of sales × Emissions unit value
12 End-of-life treatment of sold products	0.1	0.0%	Amounts of processed/recycled waste, by type of waste and processing method × Emissions unit value
13 Leased assets (downstream)	-	-	Not covered.(The Group's business is not applicable.)
14 Franchises	-	-	Not covered.(The Group's business is not applicable.)
15 Investments	-	-	Not covered.(The Group's business is not applicable.)
Total	217.0	100.0%	

Consideration for the Environment – Detailed Data

Reducing Environmental Impact of Business Activities and Products

The OKI Group has been active in reducing environmental impact of its business activities and products in order to contribute to environmental conservation.

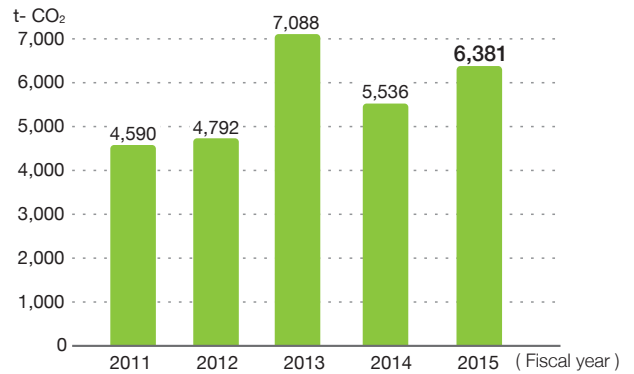
■ Reducing Environmental Impact of Physical Distribution

OKI Proserve, a company in charge of OKI's logistics operations, has promoted a modal shift since a very early stage in order to reduce CO₂ emissions during transportation, while creating a data base of transportation information to aggregate the data required by the Energy Saving Law. In fiscal 2015, it achieved a reduction of 717t-CO₂ emission (a 44% increase from the previous fiscal year) through the modal shift. CO₂ emissions from all of the transportation activities were 6,381t-CO₂ (a 15% increase from the previous fiscal year). We have updated the past data due to expansion of scope in fiscal 2015.

Modal shift efforts

http://www.oki.com/en/eco/business/greenhouse_gas.html

■ CO₂ Emissions from Transport Activities



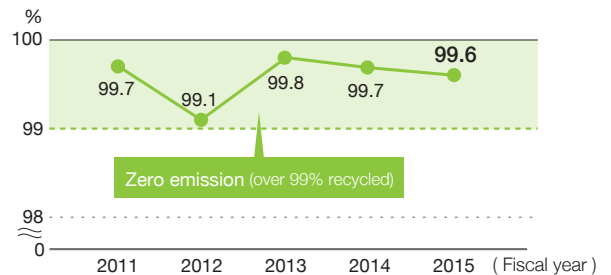
■ Promotion of Material Recycling (Zero Emissions)

The OKI Group appropriately recycles its waste generated at production sites and other locations, and has been active in improving our material recycling rate*¹. In 2002, we achieved "Zero Emissions"*² at our major production sites, and have been continuing our efforts since then. In fiscal 2015, the material recycling rate was 99.6%.

*¹ Material recycling rate: (quantity of material-recycled resources) / (quantity of material recycled resources + quantity of waste subject to final disposal) × 100

*² Zero Emissions: defined by the OKI Group as a material recycling rate of 99% or more

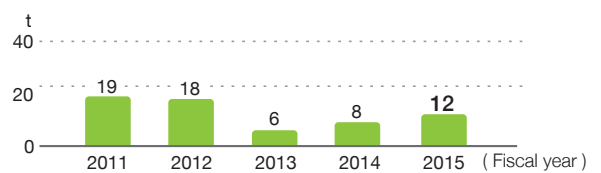
■ Material Recycling Rates of Main Production Sites



■ Amount of Waste Subject to Final Disposal

The amount of the general and industrial wastes emitted from the OKI Group's major production sites and subject to final disposal was 12 tons in fiscal 2015.

■ Amount of Waste Subject to Final Disposal Emitted from Main Production Sites



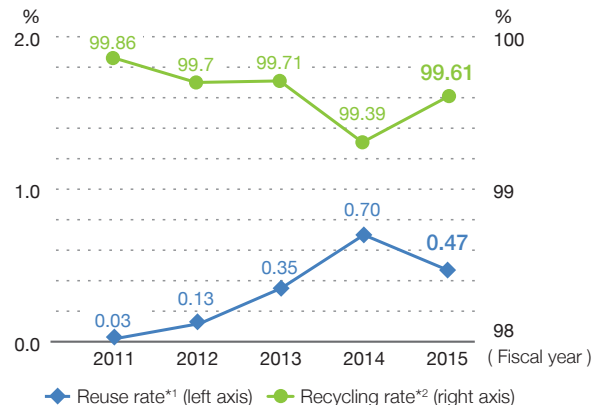
■ Recycling of Used Products

OKI, OKI Data, and OKI Customer Adtech actively utilize the Cross-jurisdictional Waste Treatment Manufacturer Scheme, which was granted by the Ministry of the Environment in June 2006 to promote the recycling of used products. The recycling rate reached 99.61% and the reused rate reached 0.47% in fiscal 2015.

Figures on other resources are listed on our website.

<http://www.oki.com/en/eco/business/recycle.html>

■ Recycling of Used Products



*¹ Reuse rate : the ratio of reused parts and materials to the collected used products (in mass).
 *² Recycling rate : the ratio of material recycling and reuse to the collected used products (in mass).

Consideration for the Environment – Detailed Data

Environmental Accounting

The OKI Group introduced environmental accounting in fiscal 1999. Since then, we have been conducting environmental activities in a highly efficient way to optimize investment effects.

■ Environmental Conservation Costs

When the OKI Group makes capital investments to renew or introduce infrastructure, it selects equipment with low environmental impact. Capital investment in fiscal 2015 amounted to 0.647 billion yen while the amount of costs was 1.273 billion yen.

■ Investment / Costs

(Unit: million yen)

Category		Main Efforts	Investment		Costs	
			Fiscal 2015	On Previous Year	Fiscal 2015	On Previous Year
Cost in business areas	Prevention of pollution	Investment in pollution control facilities, and maintenance and operation costs	13	(-23)	151	(+36)
	Global environment conservation cost	Investment in energy-saving facilities, and maintenance and operation costs	498	(-1,047)	225	(-88)
	Resource recycling cost	Investment in facilities for internal treatment of organic waste liquid, waste recycling costs	24	(+16)	349	(+78)
		Total	535	(-1,054)	725	(+26)
Upstream / downstream cost		Investment on manufacturing facilities and maintenance costs	100	(-83)	162	(-13)
Administration cost		Costs for obtaining environment management certifications, and maintenance and operation costs	11	(+11)	321	(+47)
R&D cost		R&D costs for creating energy-saving products	1	(-1)	62	(-3)
Social activity cost		Costs for planting trees in production sites, costs for activities contributing to local communities	0	(0)	3	(-15)
Environmental damage cost		Costs for reserves to respond to environmental damages, insurance costs and surcharges	0	(0)	1	(0)
Other costs		—	0	(0)	0	(0)
		Total	647	(-1,126)	1,273	(+41)

■ Benefits of Environmental Conservation

Economic effects marked 576 million yen, owing to the sales of waste as valuables.

■ Economic Effects

(Unit: million yen)

Category		Main Efforts	Effect	On Previous Year
Cost reduction effect	Effect of saving energy and resources	Reduction of electricity, petroleum, gas, packaging materials, etc. used in business activities	285	(+670)
	Effect of reducing treatment cost	Reduction of waste generated from business activities through recycling	-23	(-9)
Real income effect		Sale of valuable waste generated from business activities	314	(-79)
		Total	576	(+582)

■ Environmental Conservation Effects

(Unit: t)

Environmental Impact Indices	Impact	
	Fiscal 2015	On Previous Year
CO ₂ emissions	93,655	(-3,327)
Waste emissions (Final waste disposal)	573	(-58)

<Accounting Conditions> ① When environmental conservation costs and other costs are used for a single activity, only the environment costs are calculated for environmental accounting.
 ② Personnel costs are calculated by prorating the personnel costs for the total time spent on environmental conservation activities.
 ③ The real income effect represents the value for the current fiscal year.

■ Major Environmental Conservation Efforts

The following tables show the main efforts with respect to investment, costs and economic effects that are calculated in our environmental accounting.

■ Main Efforts by OKI Group in Japan

(Unit: 1,000 yen)

Category	Main Efforts	Amount	Site
Investment	Renewal of energy-saving air conditioners	110,090	Warabi district
	Renewal of energy-saving air conditioners	55,765	Shibaura district
	Renewal of energy-saving air conditioners	48,220	Honjo district
	Introduced energy-saving manufacturing equipment	24,000	Nagano OKI
	Conversion of lighting to LEDs	23,000	Shibaura district
Costs	PCB Waste disposal outsourcing costs	121,800	Takasaki district
	Waste disposal outsourcing costs	20,177	Tomioka district
	Waste disposal outsourcing costs	17,526	OKI Printed Circuit
	Total heat exchanger unit maintenance costs	16,500	Shibaura district
	Waste disposal outsourcing costs	14,784	OKI Data
Economic Effects	Effects of selling waste as valuables	180,000	OKI Printed Circuit
	Effects of selling waste as valuables	62,000	OKI Circuit Technology
	Reduction of packaging material purchase costs (use of returnable boxes)	39,000	Honjo district
	Effects of selling waste as valuables	33,000	Tomioka district
	Reduction of water consumption	16,000	Warabi district

■ Main Efforts by OKI Group Overseas

(Unit: 1,000 yen)

Category	Main Efforts	Amount	Site
Investment	Introduction of automatic equipment to improve production efficiency	8,201	OKI Micro Engineering (DG)
	Renewal of lighting equipment	2,682	OKI Data Manufacturing (Thailand)
	Introduction of automatic equipment to improve production efficiency	2,122	OKI Electric Technology (Kunshan)
Costs	Replacement of exhaust filters	20,522	OKI Brasil
	Maintenance costs for waste water treatment equipment	2,821	OKI Data Manufacturing (Thailand)
	Waste disposal outsourcing costs	2,111	OKI Brasil

* Exchange rates: 19.25 yen/CNY 3.60 yen/THB 42.50 yen/BRL

OKI

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