

OKI GROUP
ENVIRONMENTAL
REPORT
2015



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: 20,653 (Consolidated),
 3,881 (Non-consolidated)
 Head Office: 1-7-12 Toranomon, Minato-ku, Tokyo
 105-8460, Japan
 TEL: +81-3-3501-3111

■ Business Segments

Info-Telecom Systems

The OKI Group offers solutions & services, telecom systems, social infrastructure systems, and mechatronics systems, utilizing its core technologies of mechatronics, info-telecommunication, etc

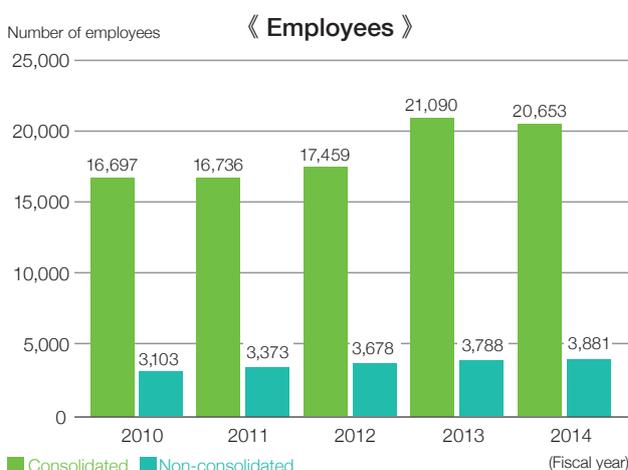
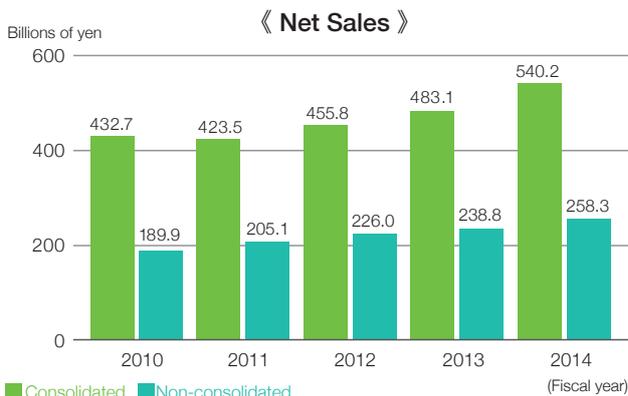


Printers

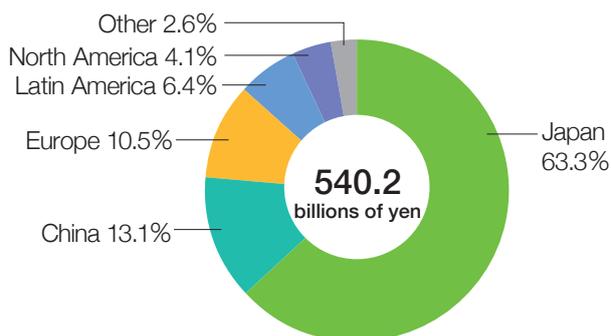
The OKI Group manufactures printers for business use by utilizing its LED technology, and distributes them throughout the world.

EMS and Others

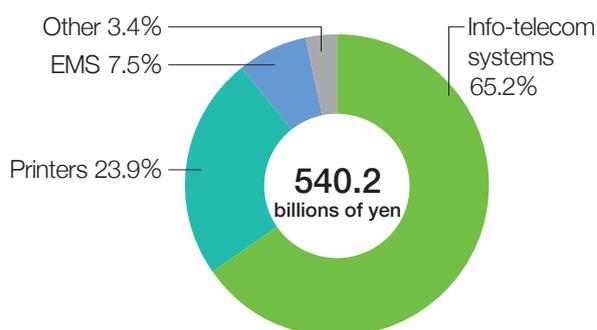
The OKI Group offers EMS (Electronics Manufacturing Services) and other services, based on its highly sophisticated design and production expertise developed within the group.



《 Net Sales by Market in fiscal 2014/Consolidated 》



《 Net Sales by Business Segment in fiscal 2014/Consolidated 》





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Editorial Policy

- The OKI Group “Environmental Report” featuring our environmental efforts and results is published in order to inform our stakeholders in an easy-to-understand way. In accordance with the current rapidly changing situations and with the increasing significance of environmental management, OKI has issued a report focusing on environmental efforts from fiscal 2015 for the purpose of further upgrading its contents.
- Environmental Report 2015 focuses on the significance of environmental management in the OKI Group and the themes in which stakeholders are strongly interested.
- See the details on our website:<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 2014 (the year from April 1, 2014 to March 31, 2015). 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 consolidated subsidiaries. However, the environmental performance data covers OKI’s 15 locations and 32 subsidiaries in Japan, and 46 overseas subsidiaries.

■ Corporate Names / Names of Organizations

Oki Electric Industry Co., Ltd. aims to be a globally known growth company. It is commonly called “OKI.” In this report, Oki Electric Industry Co., Ltd. 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 2015.

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

■ Forecasts, Plans and Targets

In addition to factual information about the past and current activities of the OKI Group, this report also includes forecasts, plans, and targets for the future. 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.

<For inquiries>
Oki Electric Industry Co., Ltd.
Global Environment
<http://www.oki.com/en/eco/ecoreport/2015/>

Basic Policy for the Environment

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 business activities, strive to save energy/resources and take actions to reduce and recycle waste.

Work on the biodiversity conservation and sustainable use.

2. Comply with applicable environmental legal requirements and regulations, with customer requirements, and other requirements to which the OKI Group subscribes, and work to 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 society by supporting environmental activities.

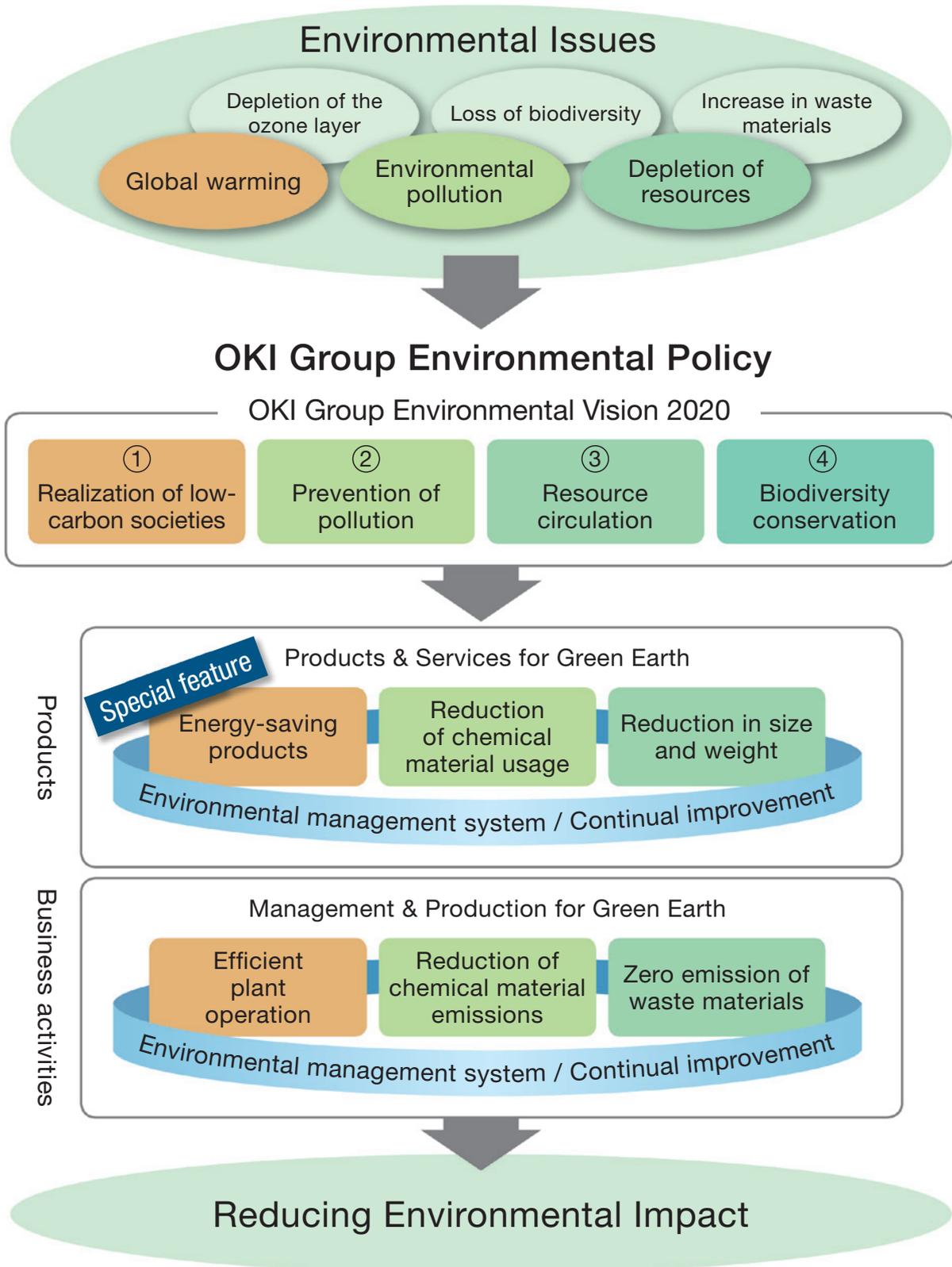
Hideichi Kawasaki

President
OkI Electric Industry Co., Ltd.



The OKI Group Environmental Management Outline

Taking environmental issues into consideration, the OKI Group has developed the “OKI Group Environmental Policy”. Setting “OKI Group Environmental Vision 2020” as the mid-term goal, we have engaged in the promotion of environmental management, continuous improvement, and the reduction of environmental impact through both products and business activities. OKI Group Environmental Report 2015 features the efforts toward the realization of low-carbon societies through products while also reporting on other activities.



The 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change was held on December, 2015, and the countermeasures against global warming have increased the significance. This special feature shares OKI Group’s commitment to the “Realization of low-carbon societies” through our products.

Successfully Reducing CO₂ Emissions in Mechatronics Products

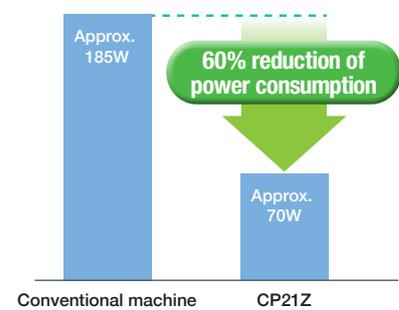
OKI’s mechatronics product lines for financial applications are mainly divided into two categories: “ATMs” for customers to deposit/withdraw cash and “cash handling equipment” that manage cash behind the scenes at financial institutions and retail stores. Both product lines have been deployed in convenience stores and customer-attracting facilities, and their low power consumption as well as convenience are catching the eyes of customers. OKI has kept developing new energy-saving products in the fields of mechatronics products for financial application, aiming at the realization of low-carbon societies.

Reduction of CO₂ Emissions in ATMs

Adoption of energy-saving mode

➔ Up to 60% reduction of power consumption

ATMs operate in an idle state and keep consuming power even late at night when few customers use them. OKI’s latest ATM “CP21Z” has adopted an “energy-saving mode” that powers off peripheral units when no operation is performed for a fixed period during the idle state. This new mode has contributed to the **60% reduction of the power consumed during the idle state**.



Much lower power consumption than conventional machines

Larger Capacity of Note Cassettes

➔ Reducing CO₂ emissions by decreasing the frequencies of refilling work

It is no longer rare to see safety guards conduct ATM maintenance at convenience stores. Replacing note cassettes of ATMs is one of their tasks. “CP21Z” has **increased the capacity of the note cassettes** for the purpose of lowering the frequency of dispatching safety guards by car to perform maintenance. We have thus indirectly **contributed to the reduction of CO₂ emissions** in the area of product maintenance.



ATM “CP21Z,” designed for deployment at convenience stores and super markets, focuses on reducing environmental impact

HISASHI WATANABE Financial Systems Engineering Department, Mechatro Terminal Systems Division, Systems Hardware Business Division, OKI

In this development, we have adopted low power consumption technology that performs power on/off of each peripheral unit separately, which the high-end model “ATM-BankIT Pro” has realized. Concerning the larger size of cassettes, OKI has made all kinds of original efforts considering that those machines are deployed in restricted spaces in convenience stores and super markets.



Reducing CO₂ Emissions of Cash Handling Equipment

OKI has made efforts to realize lower power consumption in the mechatronics product field of “cash handling equipment” as well as ATMs.

“CM21Ex,” which controls cash deposit/withdrawal behind the scenes at financial institutions, has achieved a **50% reduction of power**

consumption during the idle state when compared to conventional machines. Additionally, the machine is designed to minimize the consumption of resources, and it successfully **reduces the paper bands** that are used in binding separate notes into bundles of 100 notes **by 10%**, when compared to conventional machines.

50% reduction of power consumption

10% reduction of consumables



Backyard operation machine “CM21Ex,” designed for deployment in financial institutions, also focuses on reducing environmental impact



Developing Printers to Meet International Environmental Standards and Global Customer Needs

Since its debut, OKI's office printer “COREFIDO” has committed to the diversification of product lines to accommodate the various needs across the globe. In terms of environmental performance, its sophisticated basic technology, such as the original improvement of LEDs and the shortened control period, has received high evaluations and has passed strict international standards. Our latest models have realized three concepts of “environmental performance,” “usability improvement,” and “fast and high performance” while carrying on the spirit of adept responses to customer needs and of reducing environmental impact; at the same time, we have standardized platforms drastically in order to lower environmental impact during manufacturing processes.

Environmental Performance + Usability Improvement + Fast and High Performance

New products, an A4 monochrome LED printer (B400/500 series) and an A4 monochrome LED multifunction printer (MB400/500 series), were launched into the market in January, 2015. Those products were developed to meet “international environmental standards” and “global customer needs,” and have realized the concepts of “environmental performance,” “usability improvement,” and “fast and high performance.”

Reduction in power consumption down to 1/3 or less

- Environmental Performance:

The new models have renewed the LSI and power source, which are key components of printers, have **reduced power consumption during the standby mode (deep sleep mode) to an amount that is equal to or less than 1/3 of the power consumption of conventional machines, and have successfully satisfied two international environmental standards: the “International ENERGY STAR Program” and the “Blue Angel Mark” (See the footnotes below).**

- Usability Improvement:

The new models have adopted large 7-inch color touch panels in multifunction printers to realize intuitive operations while improving the method to set papers in multipurpose trays.

- Fast and High Performance:

The new models have succeeded in increasing the capacity for paper trays (a tray with a 530 sheet capacity is newly added to the conventional tray with a 250 sheet capacity) as well as achieving high-speed printing (45 sheets/minute). Additionally, the waiting time before printing has been shortened thanks to the shortened warm-up time.



“International ENERGY STAR Program”
The standard that the top 25% products with low power consumption can meet



“Blue Angel Mark”
Pioneer in an environmental label screened by third-party organizations



A4 monochrome LED printer
(The image is B432dnw)



A4 monochrome LED multifunction printer
(The image is MB562)

Wide Range of Standardization of Components and Low Power / Resource Consumption

“COREFIDO” has engaged in localized development with worldwide sales in mind. Considering this point, the increase in the number of new components was a challenging issue in each of these aspects: the development period, cost, and environmental impact.

In our new products, we have **standardized a wide range of common platforms ranging from LSI, power source, control board, to the mechanical section on both sides of hardware and firmware.** The achievement of this wide-range standardization has contributed to the following **reductions of environmental impact in the product life cycle** of designing, manufacturing, and maintenance:



[International ENERGY STAR Program]

This program is an international low power consumption program for office equipment in nine countries and regions across the globe. The top 25% products with high power-saving functions meet the criteria in terms of operation, sleep mode, off mode, and other criteria. Products in conformity with the standards are allowed to use “International ENERGY STAR Logo.”

[Blue Angel Mark]

This program, which has been managed by the German Federal Environmental Agency since 1978, is a pioneer of the environmental label “Type I,” which is a proof approved by a third-party screening organization to prove that a product is an environmentally-friendly product. The purpose is to promote the supply and demand of products with low environmental impact in terms of hazardous chemical substances, noise, and energy consumption and also to protect both the environment and consumers.



World’s First Water / Energy Conservation through Remote Control Systems in Restrooms

The concept of IoT (Internet of Things) to provide remote management of various machines/equipment via networks such as the Internet has been rapidly prevailing in social infrastructure and manufacturing fields. OKI’s “SmartHop®” (920MHz band wireless multi-hop communication system) has received a high amount of trust from customers as the tool that creates a network connection with sensors and equipment. This special feature focuses on the cases of utilizing “SmartHop” in the environmental impact reduction system.



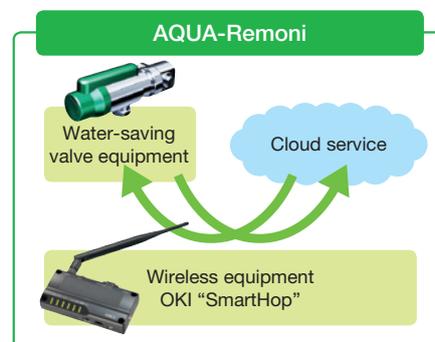
Constructing IoT-enabled Network Easily

The realization of IoT environment requires communication with clouds via a network connection of sensors and equipment. OKI’s “SmartHop” constructs a highly reliable network covering wide ranges by making the most of multi-hop technology.

“AQUA-Remoni®,” which KIMURA CORPORATION and NTT FACILITIES, INC. have jointly developed, is a cloud-based IoT service that can remotely conduct anomaly detection in restroom booths and report the number of restroom users on a daily basis — in addition to data management and changes in the settings of the volume of wash water inside restrooms. Utilizing these features, “SmartHop” has been deployed as a communication device in facilities to construct networks easily.

- 1 Inside facilities such as buildings, people and things move constantly, affecting radio waves. **In order to respond to the changes of these radio wave conditions, “SmartHop” has achieved more secure communication thanks to the automatic selection of an optimal path** for more secure communications.
- 2 Traditionally, a line connection was necessary for each washroom to communicate with cloud services. “SmartHop” with wider receipt area of radio waves has allowed communication between washrooms that crosses floors and also data gathering of each washroom for external connections, leading to the **reduction of line connections.**

■ Outline of AQUA-Remoni Remote Control of the Wash Water Volume



■ Communication Equipment “AQUA-Remoni” Introduced inside the Restroom of OKI System Center

○: OKI “SmartHop”



External design

Internal design

■ Main Effects of Introducing AQUA-Remoni

- Control of the water consumption of restrooms
- Reduction of the tasks of maintenance workers
- Detection of long stay of users (capable of responding to sudden illness)

Reducing the Environmental Impact in OKI Group’s Water-Area Products

The OKI Group has introduced “AQUA-Remoni” at its business locations such as OKI System Center at Warabi City, Saitama Prefecture. This remote control equipment always maintains the reduction of environmental impact at high levels and also supports restroom safety.

50% Reduction of water and power consumption

1. This system, leading to the preservation of future water resources
2. Reducing power consumption of scooping pump
3. Realizing the higher safety inside facilities thanks to the adoption of new functions such as the detection of long stays in case of sudden illness or accidents

OKI System Center, which introduced “AQUA-Remoni,” has **reduced approx. 50% of the wash water volume as well as the power consumption of the scooping pump, and also halved CO₂ emissions when compared to conventional equipment.**

TAKANORI GOJOU

Marketing & Business Strategic Department,
Smart Communication Division,
Telecom Systems Business Division, OKI

I am proud that the OKI’s SmartHop is introduced as the world’s first remote restroom control system, which is an application example to IoT-systems.



My hope is that all the restrooms across the country become controlled under this system to contribute to the preservation of future water resources.

“Prevention of Pollution” through Products

Strict Chemical Substance Management Including Packaging Materials

OKI Data (hereafter referred to as “ODC”) printers are widely available across the globe. We are always faced with the issues concerning the response to the environmental standards of each country. In particular, the regulations on chemical substances in products have been **rapidly reinforced in each country**. Its scope of management **covers every material, including packaging materials as well as products themselves**.

The European RoHS Directive and REACH regulations are playing the leading roles among those regulations. “Revised RoHS Directive” has reinforced the standard by added the obligation to draw up/preserve conformity statements and technical documents as a way to prove the conformity of products with the RoHS standard, and this is making practical operations more challenging.

ODC has utilized OKI’s original software, “COINServ®-COSMOS-R/R” (hereafter referred to as “COSMOS-R/R”), in order to **respond promptly to the advanced management of chemical substances** and to meet the world’s strict environmental standards, environmental standards including Europe.

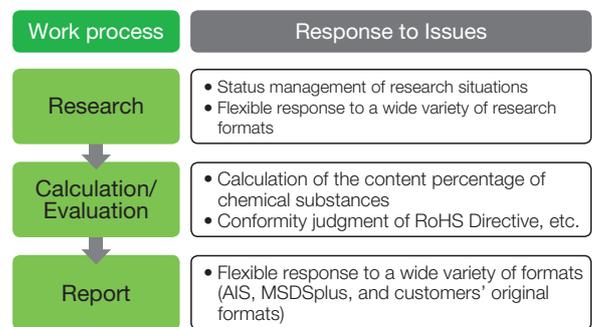
Tackling Various Issues for Chemical Substance Management in Products

Chemical substance management of products requires various issues in every process.

The **research process** includes the response to a wide variety of formats as well as the progress management concerning the research of a large amount of components. The **calculation/evaluation process** requires the calculation of the content percentage of chemical substances and the judgment regarding whether or not substances prohibited by the RoHS Directive are contained. The **report process** requires the response to a wide variety of formats in accordance with customers. As is shown, the requirements for IT systems have become sophisticated and challenging.

COSMOS-R/R has evolved as an easy-to-use practical tool while responding to these practical issues as well as the **frequently revised laws and regulations**.

Work Process and Response to Issues



Know-how to Continuously Monitor the Environmental Data in Business Locations

Plant operations require the management of various environmental impacts by chemical substances as well as manufactured products. The scope ranges from noise, vibration, electricity, gas emission, drainage, to chemical substances contained in groundwater.

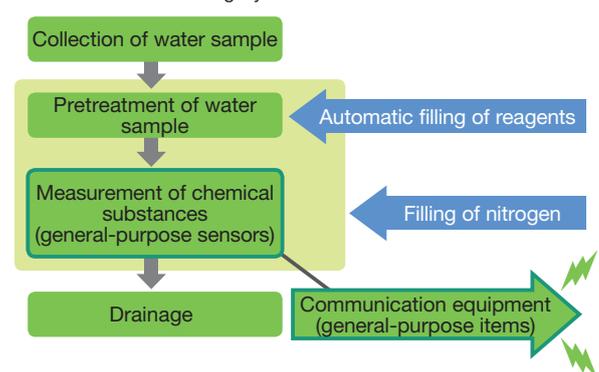
Among those scopes, groundwater monitoring was a challenging issue because groundwater is highly affected by geological features and seasonal variations and, what is more, performing continuous measurement required economic and technological efforts. In order to tackle those issues, OKI has developed the **continuous monitoring system** (Figure A), which utilized **general-purpose sensors and communication systems with high economic effects**, making it possible to obtain **high-level measurement results nearly equal to the analysis designated by law**.

These efforts have made a **significant contribution to the environmental assessment**, which had previously required a large amount of time and costs.

- Continuous measurement allows for comprehension of an actual trend (Figure B)
- Unmanned remote monitoring is available
- The influence of interfering substances thanks to automatic filling of nitrogen and reagents is removed
- All system functions with only a 100V power source. These power sources can even be used outdoors
- Response to various analog and digital interfaces

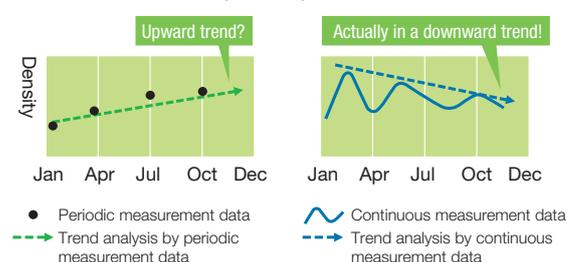
This system responds not only to the water quality test but also to **various types of sensors**: temperature, humidity, and pressure. For example, it can easily be connected with each type of building management systems such as BEMS, allowing for high extensibility.

■ Figure A: Collection Flow of Water Quality Data through a Continuous Monitoring System



■ Figure B: Sample Image of Water Quality Measurement Result

If result data is evaluated in small amounts by periodic measurement, the density appears to be in an upward trend, but the continuous measurement data indicates that the density is actually in a downward trend.



Reducing Environmental Impact in Business Activities

Challenge for Reducing the Environmental Impact of Printed Circuit Board Manufacturing

A Castle town where tradition, culture, and academic learning are rooted at backdrop of Dewa sanzan — at Tsuruoka City in Yamagata Prefecture, OKI Circuit Technology (hereafter referred to as “OTC”) was founded in 1970. Since its foundation, OTC’s high-quality and reliable products have received a high level of trust from numerous customers through providing large and multilayered printed circuit boards to aviation and space industries.

In general, the manufacturing process of printed circuit boards requires large amounts of chemicals and quantity of heat in conducting multiple processes such as etching* and plating. Under these circumstances, OTC has engaged in reducing the environmental impact in various aspects for a long time. This special feature shares some of those activities.

* Etching: technology that removes the copper foil parts of material boards, some of which are unnecessary for circuit patterns, by melting them in etching solution



Challenge 1

Renewed Process Achieves Lower Environmental Impact and Improves Quality Simultaneously

“Rendering on circuit patterns,” one of the core processes in high-precision printed board manufacturing, had been conducted in multiple stages (lamination* ➔ masking ➔ exposure ➔ developing), and the process required multiple equipment and numerous liquid medicines (Figure A).

OTC has renewed the process and adopted a “direct rendering method” that allows for the rendering of circuits directly on material boards through laser light without “masking,” thereby reducing manufacturing processes drastically (Figure B).

As a result, **the productivity has improved significantly** and the number of equipment was reduced by three, **making it possible to reduce power consumption by 40MWh annually**. Additionally, **the liquid medicines for the masking process are no longer necessary** and the move to lower power/resource consumption has advanced further.

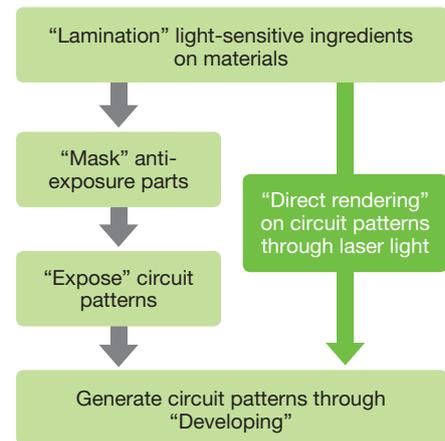
The direct rendering method allowed OTC to pursue not only lower environmental impact but also more **minute and advanced board manufacturing** when compared to the masking method.

40MWh reduction annually

Comparison between the Old and New Circuit Patterns of the Rendering Processes

Traditional masking process is no longer necessary and productivity has improved. Both lower environmental impact and advanced circuit pattern rendering have been achieved.

Figure A: Old process (masking is necessary) Figure B: New process (masking is not necessary)



YUKIHIKO HONMA Business Department, Manufacturing Division,
OKI Circuit Technology



The introduction of direct rendering equipment has enabled us to feel that we have achieved both high quality and environmental performance. The success in reducing the number of equipment for circuit rendering has allowed us to reduce the size of clean rooms where conventional equipment was deployed and also to further reduce power consumption thanks to the smaller space usage. As a worker involved in equipment handling, I have strong expectations regarding the equipment.

* Lamination: the work of pasting the sheet containing light-sensitive ingredients onto the surface of materials

Challenge 2

Utilizing Boiler’s Heat during Drainage

In manufacturing printed circuit boards, a large volume of water is evaporated through boilers and the steam is drained at a high temperature after being used in the manufacturing process.

OTC has utilized this high-temperature drainage for melting snow inside parking lots. We conducted piping work to flow the drainage below the asphalt of parking lots, and the heat is utilized to melt snow. The piping work made snow shoveling unnecessary and contributed to maintaining an environment where people who use wheelchairs can pass smoothly. This is one case in which the efforts to save power consumption have led to a barrier-free environment.



Pump to carry high-temperature drainage to snow shoveling pipes



Parking lots where snow shoveling pipes are laid beneath

Reducing Environmental Impact in Business Activities

Cross-functional Committee on Global Warming Prevention Promotion

The OKI Group has engaged in a medium and long term energy-saving plan in order to achieve the goal of the “Realization of low-carbon societies” set in the OKI Group Environmental Vision 2020. In order to implement this plan, we have set up “Committee on Global Warming Prevention Promotion,” which is effectively promoting the group-wide activities for lower power consumption. This committee has set the concepts of “compliance,” “standardization,” and “case sharing” as its three pillars.



The Committee on Global Warming Prevention Promotion has shared the current trends and numerous activity results of each location

- 1. Secure compliance with Energy Saving Law:** mutually verify the compliance status of each company in a body in order to secure compliance as a group
- 2. Efficient response:** share group-wide operations of energy-saving activity management and monitoring procedures as common standards
- 3. Sharing and expansion of improvement cases:** develop effective measures and cases in accordance with the features of each business location such as plants and offices, leading to the enhanced effects of energy-saving activities in each location.

RIE OONO

Warabi General Affairs Team,
Human Resources Division, OKI



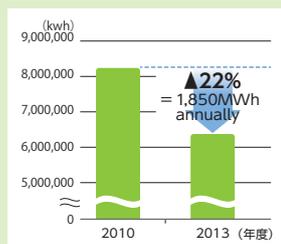
As a member of Committee on Global Warming Prevention Promotion, I make a voluntary effort to tackle energy saving. On a daily basis I have been engaged in the promotion of low power consumption as a general affair staff at the OKI System Center in Warabi City, Saitama Prefecture. In preparing the documents that need to be submitted to the prefecture every year, I check the actual data of collected power/gas consumption many times in the monthly calculation stage, with accuracy in mind.

Winning Two Awards related with Low Power Consumption

ODI (hereafter referred to as “OKI Digital Imaging”), a LED business company, received the highest award of the “73th Kanto Region Electricity Usage Rationalization Committee 2014” in February 2015. ODI’s commitment to the annual reduction of 1,850MWh of power consumption (22% reduction compared to the conventional system) in clean rooms have contributed to the winning of this award.



ODI’s Koizumi President receiving an award certificate (right)



Achievement of implementing challenging energy saving in clean rooms

OKI Wintech (hereafter referred to as “OWT”), a communication and electricity company, received “Shinagawa Environmental Award 2014” in February 2015. This award is intended to publicly honor excellent environmental protection activities in Shinagawa Ward. OWT’s commitment to the establishment of the energy-saving promotion committee and the expansion of “Web Sensing™”, cloud-type energy/environmental monitoring system, within and outside the company was highly acclaimed in the award.



OWT’s Iwata Chief of General Affairs receiving an award certificate



The display of Web Sensing showing the trend of power usage and other items

Responses to Environmental Pollution, etc.

[Pollution of Groundwater and Soil]

The OKI Group installed observation wells at business locations, and is monitoring groundwater. A survey was performed for a land transaction in fiscal 2012, which found environmental pollution in the soil and groundwater of the OKI System Center in Warabi City, Saitama Prefecture. 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.

[Environmental Accidents, Claims, etc.]

There were no environment-related accidents nor serious large claims made against the OKI Group in fiscal 2014. Whenever such an event occurs, we take action to alleviate the effects, and in accordance with rules for corrective and preventative actions, we find the causes and take action to prevent recurrence. We also perform the appropriate disclosures in accordance with the rules on external communication.

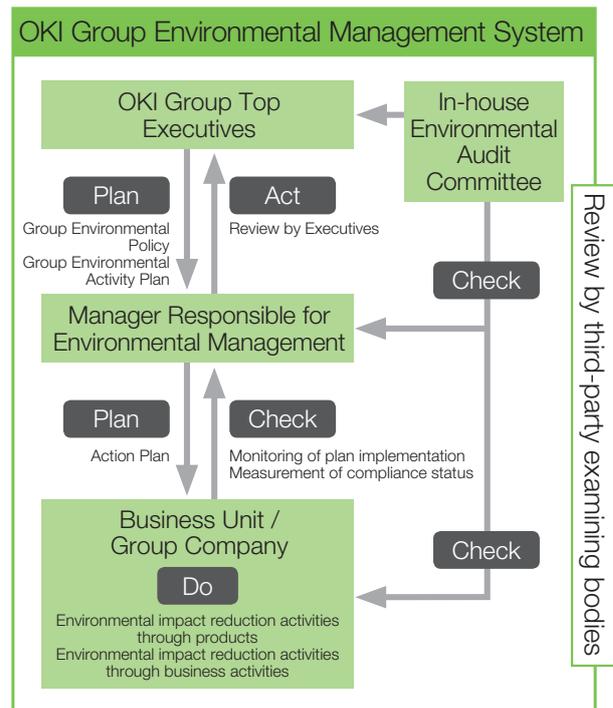
OKI Group Environmental Management System

The OKI Group has developed the “Environmental Vision 2020” in 2012 and set the goals for 2020 in four fields: “Realization of low-carbon societies,” “Prevention of pollution,” “Resource circulation,” and “Biodiversity preservation.” In order to achieve these goals, we will implement the PDCA cycle and continue to be engaged in the continuous improvement of environmental performance and the operational system.

The OKI Group will proactively respond to the requests from customers and stakeholders while complying with each legal regulation concerning the environment.

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 the health of people and the 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. Additionally, minimize the new input resources through expansion of the recycling of waste materials, reduction of 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.



■ OKI Group Environmental Activity Plan (Fiscal 2014): Targets and Achievements

	Applicable themes of Environmental Visions, etc.	Activities	Targets for Fiscal 2016	Targets for Fiscal 2014	Achievements in Fiscal 2014		
					Results	Evaluation	See Page
Business Activities	Realization of low-carbon societies	Improvement of energy consumption efficiency, planned facility renewals, and re-examination of operations, etc.	Consumption*1: -4% or more (vs. FY2012)	Consumption: -2% or more (vs. FY2012)	Consumption: -13% or more (vs. FY2012)	○	7,8,10, 11,13, 14,15
	Prevention of pollution	Emission reduction of hazardous chemical substances into air and water system	Consumption*2: -4% or more (vs. FY2012)	Consumption: -2% or more (vs. FY2012)	Consumption: -7% or more (vs. FY2012)	○	10,15
Products	Realization of low-carbon societies	CO ₂ emission control through innovation of low electricity-consuming products	Development of 5 or more products with lower power consumption by 50% or more (vs. conventional products)	Register 5 products satisfying at least “OKI Eco Products Plus” level (i.e. power conservation effect of 25% or more)	Completed developing seven energy-saving products in which five newly-registered products (printers) are included	○	6,7,8
	Prevention of pollution	Secure compliance with regulations on chemical substances in products	Secure compliance in accordance with the management initiative of new chemical substance survey lists	Secure compliance regulations referring to the information concerning the revised regulations - Management procedure document - Chemical substance management system	Achieved secure compliance with regulations referring to the information concerning the revised regulations (revised RoHS Directive and Packaging Material Directive)	○	9,11
	Resource circulation	Expansion of amount treated under Cross-jurisdictional Waste Treatment Manufacturer Scheme (promotion of proper treatment and recycling)	Result of previous FY + 100 t	4,200t	2,400t (subject to the adjustment to the applications of expanding approval scopes)	×	14
Common	Biodiversity conservation	Reduction of the impact on ecosystem services	Continuous promotion: realization of low-carbon societies / prevention of pollution / resource circulation	Achieve fiscal 2014 goal: realization of low-carbon societies / prevention of pollution / resource circulation (See the document above)	Realization of low-carbon societies: Achieved Prevention of pollution: Achieved Resource circulation: Not yet achieved (See the details above)	△	Website
	Compliance audit and training	Implementation of compliance audit [Purpose] • Verify the status of compliance with regulations • Prevent environmental incidents Implementation of training [Purpose] Improve the effectiveness of environmental management activities	Expand the audit scope in the regulations (e.g., energy-related fields) Implementation of training based on the effectiveness evaluation (training for each regulation, training for nurturing environmental staff, and training for chemical substances in products, etc.)	On-site verification of waste treatment consignees / Implementation of measures for revised Water Pollution (Prevention) Act Implementation of training based on in-house needs (training for each regulation, training for nurturing environmental staff, and training for chemical substances in products, etc.)	No violations found (completed the follow-up for the purpose of improving management levels) Offered seven types of expertise training including “Waste Management and Public Cleansing Law” in accordance with high in-house attention Comprehension level (Waste Management and Public Cleansing Law Training) Goal: 90 points → Actual: 93 points	○	Website

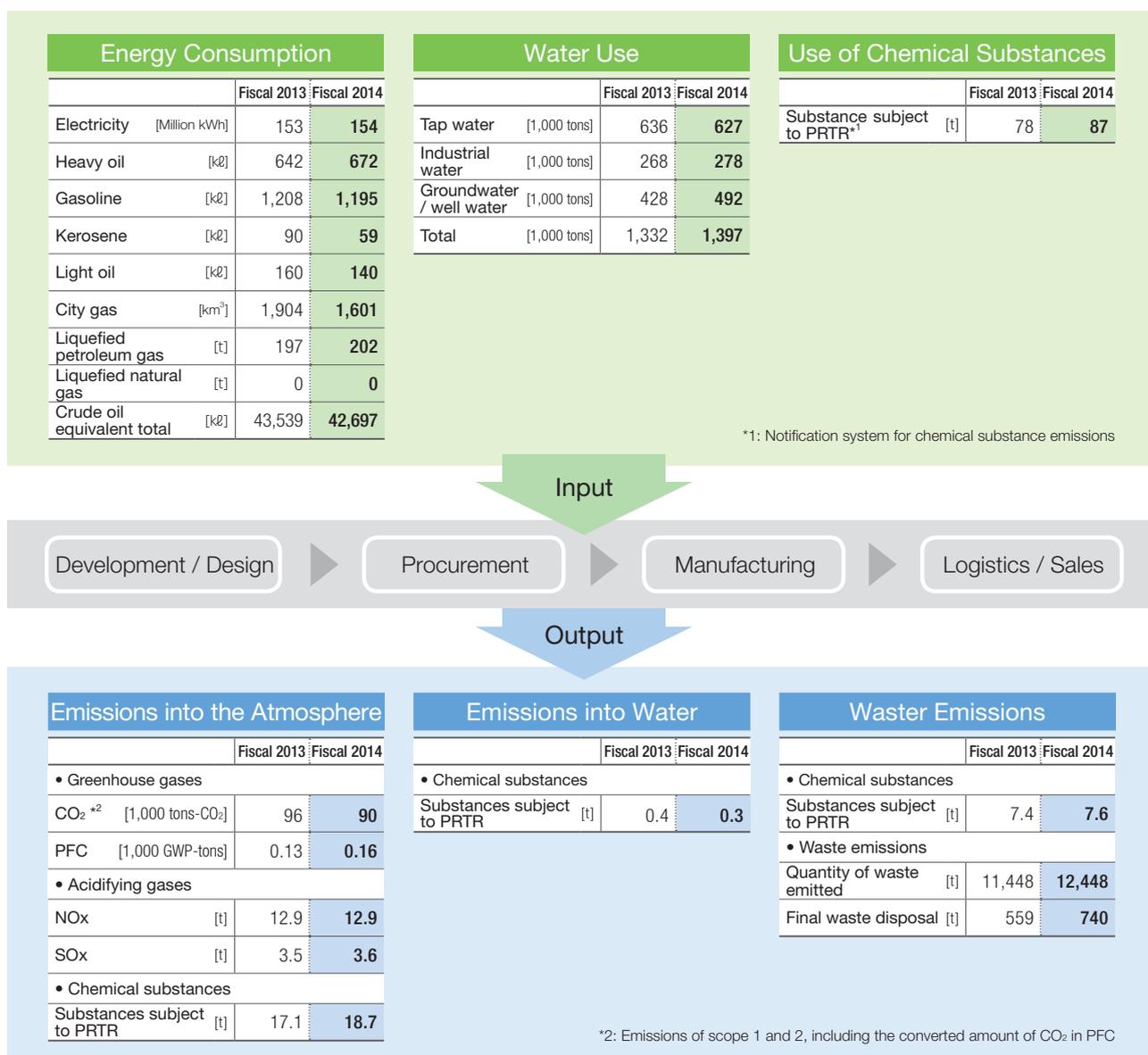
*1: Energy consumption (converted in crude oil: kℓ) / consolidated sales (100 million yen) *2: Chemical substance emissions (t) / consolidated sales (100 million yen)

Consideration for the Environment – Detailed Data

This section shares the environmental impact of business activities and environmental accounting in the OKI Group. In fiscal 2014, OKI Brasil (production/sales location) was newly added in the application scope as an overseas consolidated subsidiary. We have updated the past data, including the data of nine overseas consolidated companies which have already served as group companies previously.

Environmental Impact of Business Activities (Material Balance)

The OKI Group uses energy, water and chemical substances as “inputs” to conduct business activities focusing on development and production, while discharging CO₂, chemical substances, and waste as “outputs.”



CO₂ Emissions in Each Scope

Region	Category	Fiscal year	Emission (1,000t-CO ₂)
Japan	Scope 1 (direct emission)	2013	11.1
		2014	11.0
	Scope 2 (indirect emission)	2013	65.7
		2014	70.0
	Scope 3 (other indirect emission)*3	2013	6.5
		2014	5.1

Region	Category	Fiscal year	Emission (1,000t-CO ₂)
Overseas	Scope 1 (direct emission)	2013	1.0
		2014	1.0
	Scope 2 (indirect emission)	2013	17.3
		2014	18.8

*3: transportation of products and waste

Consideration for the Environment – Detailed Data

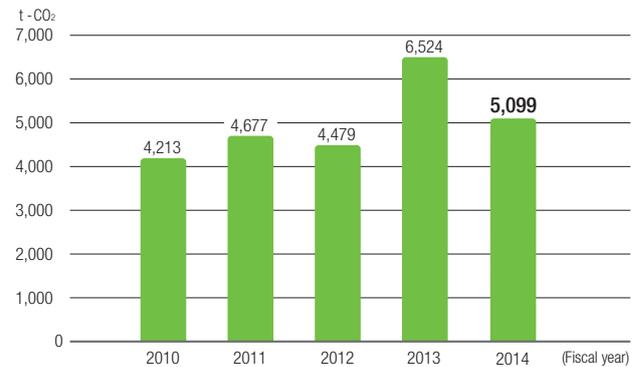
Reducing Environmental Impact

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 2014, it achieved a reduction of 499t-CO₂ emission (a 18% decrease from the previous fiscal year) through the modal shift. Meanwhile, CO₂ emissions from all of the transportation activities were 5,099t-CO₂ (a 22% decrease from the previous fiscal year) due to decreased remote transport activities and other reasons.

■ 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 main production sites, and have been continuing our efforts since then. In fiscal 2014, the material recycling rate was 99.9%.

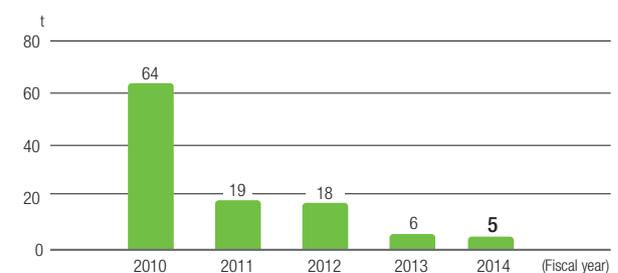
*¹ Material recycling rate: (quantity of material-recycled resources) / (quantity of material recycled resources + quantity of waste subject to final disposal) x 100

*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 Emitted from Main Production Sites



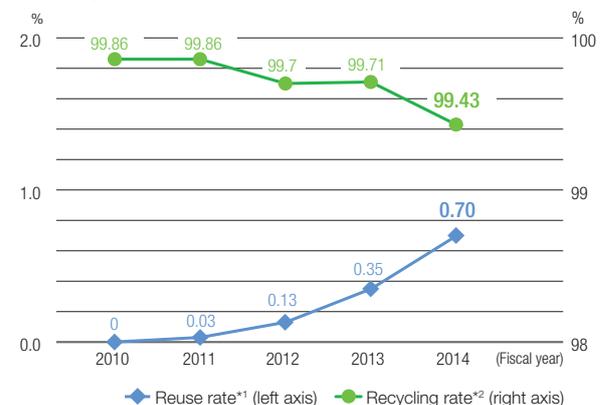
Amount of Waste Subject to Final Disposal

The final disposal waste generated by the OKI Group's major production sites in fiscal 2014, combining their industrial waste and general waste, amounted to 5t due to the improved material recycling rate.

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 99.43% and the reused rate reached 0.70% in fiscal 2014.

■ 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 2014 amounted to 1.776 billion yen (compared to 1.355 billion yen in fiscal 2013), while the amount of costs was 1.331 billion yen (compared to 1.095 billion yen in fiscal 2013).

Investment / Costs

(Unit: million yen)

Category		Main Efforts	Investment		Costs	
			2013	2014	2013	2014
Cost in business areas	Prevention of pollution	Investment in pollution control facilities, and maintenance and operation costs	89	35	61	73
	Global environment conservation cost	Investment in energy-saving facilities, and maintenance and operation costs	1,215	1,518	253	339
	Resource recycling cost	Investment in facilities for internal treatment of organic waste liquid, waste recycling costs	12	23	347	277
Total			1,316	1,576	661	689
Upstream / downstream cost		Investment on manufacturing facilities and maintenance costs	35	195	165	241
Administration cost		Costs for obtaining environment management certifications, and maintenance and operation costs	4	3	220	251
R&D cost		R&D costs for creating energy-saving products	0	2	46	65
Social activity cost		Costs for planting trees in production sites, costs for activities contributing to local communities	0	0	3	84
Environmental damage cost		Costs for reserves to respond to environmental damages, insurance costs and surcharges	0	0	1	1
Other costs		—	0	0	0	0
Total			1,355	1,776	1,095	1,331

Benefits Related to Environmental Conservation Costs

Economic effects marked 116 million yen (compared to 123 million yen in fiscal 2013), owing to the sales of waste as valuables.

Economic Effects

(Unit: million yen)

Category		Main Efforts	Effects	
			2013	2014
Cost reduction effect	Effect of saving energy and resources	Reduction of electricity, petroleum, gas, packaging materials, etc. used in business activities	-180	-385
	Effect of reducing treatment cost	Reduction of waste generated from business activities through recycling	-10	-14
Real income effect		Sale of valuable waste generated from business activities	310	515
		Sale of used valuable products	3	0
Total			123	116

Environmental Conservation Effects

Environmental Impact Indices		Impact		Difference compared to previous fiscal year
		2013	2014	
CO ₂ emissions (tons-CO ₂)		95,712	89,649	-6,063
Waste emissions	Final waste disposal (tons)	559	740	181

<Accounting Conditions>

- When environmental conservation costs and other costs are used for a single activity, only the environment costs are calculated for environmental accounting.
- Personnel costs are calculated by prorating the personnel costs for the total time spent on environmental conservation activities.
- 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 extra-high voltage transformation facilities	755,000	Takasaki district
	Renewal of energy-saving air conditioners	206,000	Takasaki district
	Renewal of laser processing machines	180,000	Tomioka district
	Module-type fast multiple function machines	99,200	Honjo district
	Renewal of energy-saving air conditioners	57,592	Numazu district
Costs	PCB Waste disposal outsourcing costs	56,600	Honjo district
	Waste disposal outsourcing costs	52,669	OKI Printed Circuit
	Drainage treatment costs	32,836	OKI Printed Circuit
	Rental costs for air-conditioning control equipment	26,910	OKI Engineering
Economic Effects	Waste disposal outsourcing costs	13,024	Takasaki district
	Effects of selling waste as valuables	261,113	Takasaki district
	Effects of selling waste as valuables	93,783	OKI Printed Circuit
	Effects of selling waste as valuables	48,236	OKI Sensor Device
	Reduction in water usage owing to the deployment of water-saving equipment	15,018	Shibaura district
Energy saving effect by the improved operations of each piece of equipment	8,454	OKI Digital Imaging	

Main Efforts by OKI Group Overseas

(Unit: 1,000 yen)

Category	Main Efforts	Amount	Site
Investment	Introduction of highly-efficient automatic facilities	35,962	OKI Micro Engineering (DG)
	Introduction of automatic assembly facilities	2,313	OKI Electric Technology (Kunshan)
	Renewal of lighting equipment	1,176	OKI Electric Industry (Shenzhen)
Costs	Waste disposal outsourcing costs	10,566	OKI (UK)
	Waste disposal outsourcing costs	5,627	OKI Brasil
	Waste disposal outsourcing costs	1,330	OKI Electric Industry (Shenzhen)

OKI

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