

## New Approach to the OKI Group Environmental Vision 2020

The OKI Group focuses on four areas for implementing activities based on its “Environmental Vision 2020,” developed in April 2012. Further improvement of our corporate value is expected through achievement of this Vision, after revising it to add more specific targets linked to the mid-term business plan.

### Aiming for Further Corporate Value Improvement through Implementation of High-level Environmental Management

The OKI Group set out quantitative objectives for its “Environmental Vision 2020,” in April 2014, to clarify the goal for environmental load reduction. The Group will implement activities to ensure the enhancement of its environmental management promotion scheme aiming at achievement of these objectives.

Here are the three specific target values;

1. Reduce energy use by 8%, in terms of consumption per nominal sales (corresponds to 12% reduction in terms of consumption per real sales) from fiscal 2012
2. Reduce emissions of chemical substances by 8% in terms of consumption per nominal sales (corresponds to 15.5% reduction in terms of consumption per real sales) from fiscal 2012
3. Increase amount of recycled used products by 25% from fiscal 2012

By achieving these objectives, we will also contribute to the conservation of biodiversity.

Through the new approaches toward its Environmental Vision 2020, the OKI Group will contribute to becoming a high-value added creation group, which is the goal of its Mid-term Business Plan 2016.

Some major activities conducted in fiscal 2013 for achieving each goal are described in the following.

### Realization of low-carbon Societies

Countermeasures against global warming are some of the OKI Group’s major themes. The Group signed onto Keidanren’s Commitment to a Low-carbon Society in March 2012, to promote energy conservation measures in its business operations and products.

#### Automated Teller Machines (ATMs) that Fulfill the Needs for Lower Power Consumption

One of the OKI Group’s core products, automated teller machines (ATMs) continue to evolve as they adapt to the customers’ requests. “ATM-BankIT Pro”, whose shipping was launched in April 2013, successfully reduced its power consumption during idle state between transactions to 75% lower than conventional machines. The activities that enabled this success are indicated below.



ATM-BankIT Pro

## OKI Group Environmental Vision 2020

The OKI Group will bring about and pass on a better global environment to the next generation. For this purpose, the Group will promote environmental management and implement proactive measures to achieve the objectives for 2020 in the following four themes; “Realization of low-carbon societies”, “Prevention of pollution”, “Resource circulation” and “Biodiversity conservation”.

### 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.

### Establishing the Shortest Routes for Banknote Transport

The banknote transport routes, previously very complicated, was simplified and minimized, while reducing the number of electronic components controlling the media transport, and controlling the electric power to cut power consumption.

### Expanding the Scope of Power Supply Reduction during Idle State (between Transactions)

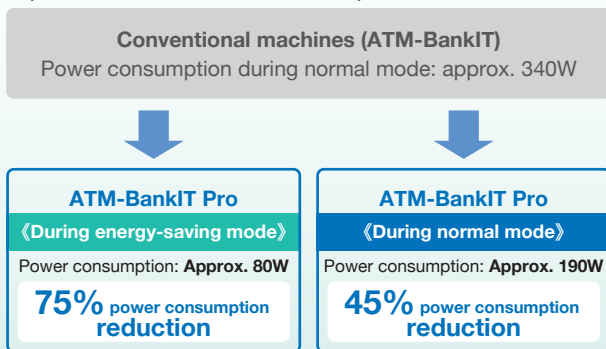
Power consumption during idle state (between transactions) was significantly reduced after expanding the application scope of power supply reduction during such periods to the bill identification sensors, etc.

### Introduction of Advanced Technologies Contributing to Power Reduction

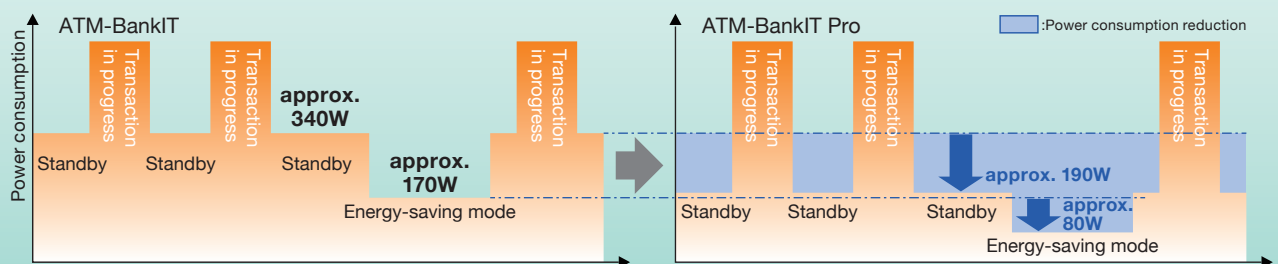
Power reduction was achieved through the introduction of power-saving CPUs (Mobile CPUs) and LED backlighting for display areas. Moreover, highly power-saving, fast accessible and impact-resistant SSD\* were introduced in addition to the conventional HDDs. Although a short rewritable life of the SSD was the issue at its introduction, it was resolved by distributing the blocks for rewriting (i.e. leveling the numbers of rewrites). Redundant systems and high-level monitoring further enhanced these measures. The utilization of these advanced technologies has simultaneously enabled ATM's "reduced power consumption" and "stable quality".

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

#### Comparison of Power Consumption Reduction (vs. OKI's Conventional Machines)



#### Comparison of Power Consumption Based on the Transaction Flow (vs. OKI's Conventional Machines)



## Saving Electricity in the Clean Rooms

OKI Digital Imaging, a Group engaging in development and manufacturing of print heads of LED printers, formed a project team to comply with the power consumption restriction code that was enacted after the Great East Japan Earthquake in 2011. The team's energy-saving activities still continue today. Various activities, including renewal of air-conditioning systems and the use of partitions to limit the air-conditioned areas, were implemented to reduce power consumption. Among these activities, the one that rendered a significant result was the improvement in the operation of refrigerating machines, which consume large amounts of electricity to control temperatures and humidity in the clean room, the heart of production.

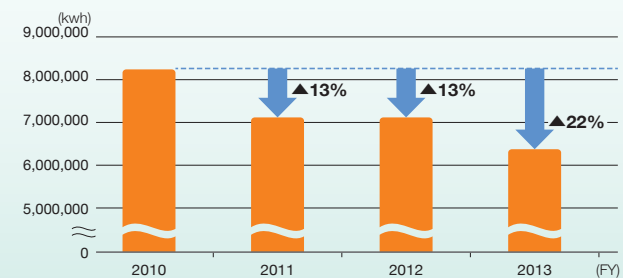
The two refrigerating machines operate at full capacity during the summer season due to the large amount of refrigerated water required for cooling and dehumidification. To increase the efficiency of their operation, enforced temperature control was implemented for the refrigerated water to be supplied to air conditioners. Further reduction of power consumption was achieved by reviewing and relaxing the control criteria of temperature and humidity in each area. In fiscal 2011, peak power was reduced by 28.6% from the previous year.

As a result, in 2013, even during August when power consumption reached its peak, refrigerated water was accumulated in the morning to be used in the afternoon from 13:00 to 16:00, allowing the two refrigerating machines to be turned off during these hours. Also, it was demonstrated that the humidity control criteria could still be met even though the machines were turned off for five hours at night, which indicated that the refrigerating machines could be turned off for an extended period of time.



Turbo refrigerating machine

#### Shift in Power Consumption of OKI Digital Imaging



## Prevention of Pollution

Ever stricter regulations have been imposed on chemical substances that can affect people's health and the environment, of which measures include expanded coverage of substances and revised emission caps. In order to properly meet these regulations, the OKI Group is engaging in various activities including adequate management of chemical substances in products or those handled during the production processes, use of alternative substances with less adverse impact, and usage/emission reduction.

### Information System for Complying with the Regulations of Chemical Substances in Products

OKI's COINServ-COSMOS-R/R, an information system used to track chemical substances in products (hereinafter referred to as "COSMOS-R/R") manages and calculates the chemical

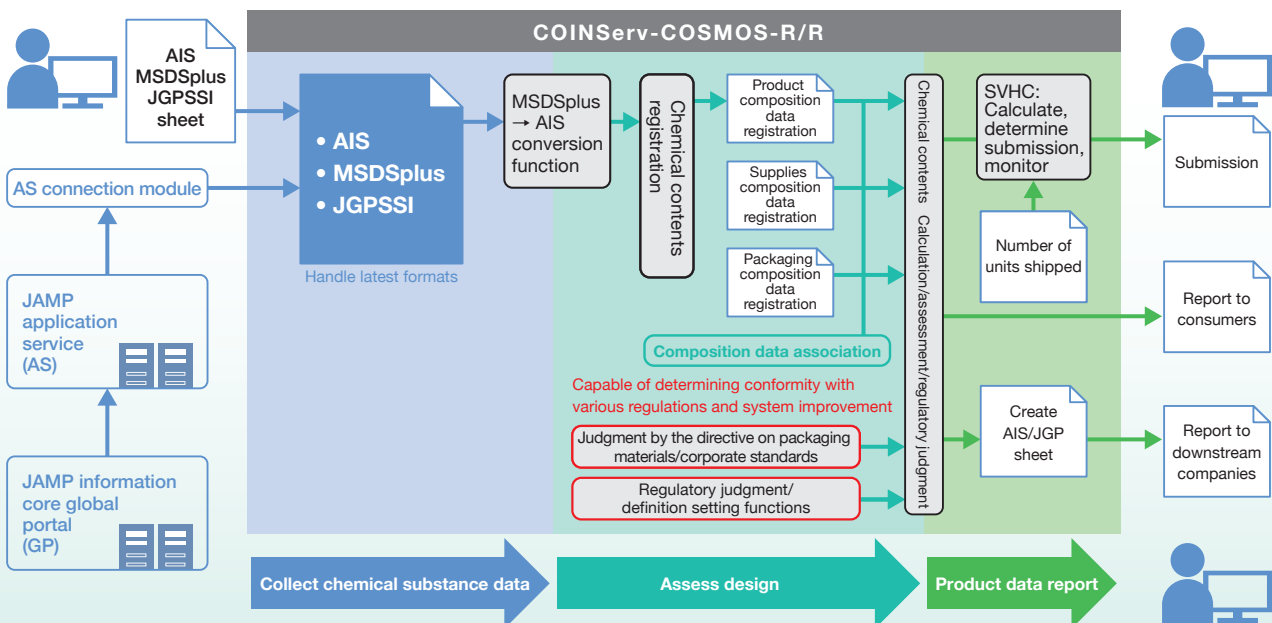
substances in products, assesses the conformity with regulations such as RoHS Directive and REACH Regulation, and provides features for managing related documents. This system is used by a wide range of customers mainly in the electrical and electronics industries. The system, with its new features for implementing operative improvements and compatibility with the latest regulations and industry-standard investigation tools, has helped improve conformity with regulations as well as investigation efficiency.

COSMOS-R/R's assessment function was further enhanced in fiscal 2013, allowing the conformity assessment for more regulations. Assessments of the conformity with the Packaging Material Directive and RoHS Directive, using JAMP's\* communication tools, which had been difficult with previous information systems of a similar type, have now become possible, leading to improved operative efficiency.

\* JAMP: Joint Article Management Promotion-consortium.

The consortium established in September 2006 with the aim to promote the establishment of concrete mechanisms for properly managing chemical substance information and for disclosing and transmitting such information smoothly within the supply chains.

#### Outline of System to Manage and Calculate Chemical Substances in Products



#### TOPICS

### Industry leading "Revised RoHS Directive Compliance Support Services" Launched

In January 2014, OKI Engineering launched a one-stop service for providing support for collecting information on chemical substances, analyzing constituents for the 6 hazardous substances, and obtaining CE marks\* for electrical and electronic products under the scope of "Revised RoHS Directive." Support is available for medical equipment, to which the regulations will be applicable in the future. Conformity with RoHS Directives is assessed in each stage of design, material procurement, prototype and mass production, and comprehensive support is offered for preparation of technical documents, etc.

\* Refers to European Conformity. A mark indicating a product's conformity with European directives, including RoHS Directive.

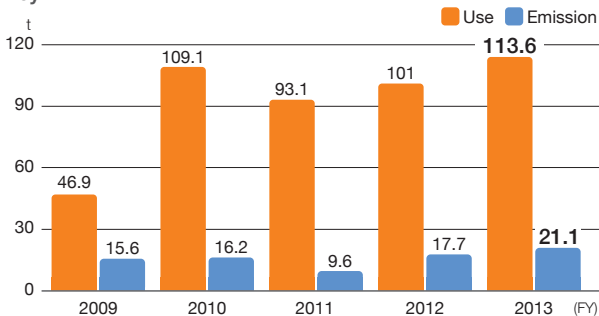


Analyzing the constituents for the 6 hazardous substances

## Management and Reduction of Chemical Substances in Business Activities

The OKI Group makes continuous efforts for proper management and operational improvement of chemical substances which are used during production, in order to promote the reduction of their use as well as emissions. The Group continues to engage in such activities as substitution for less hazardous chemical substances and reduction of input through better operations.

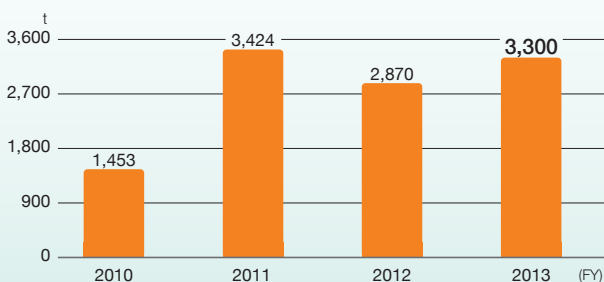
### Shift in Use and Emission Amount of Substances Covered by PRTR



## Resource Circulation

The OKI Group is actively involved in resource saving and recycling in its business activities. When recycling its used products, the Group utilizes the Cross-jurisdictional Waste Treatment Manufacturer Scheme in order to expand further waste treatment. In fiscal 2014, the Group aims to expand its treatment amount by adding consumables to the applicable used products.

### Shift in Amount Treated Using Cross-jurisdictional Waste Treatment Manufacturer Scheme



## Biodiversity Conservation

The OKI Group has carried out forest conservation activities with the participation of volunteering employees since the 1990's, and co-sponsored the National School and Kindergarten Biotope Contest held by the Ecosystem Conservation Society-Japan since fiscal 2001. In fiscal 2010, the Group endorsed the Declaration of Biodiversity by Nippon Keidanren, and participated in the Japan Business & Biodiversity Partnership to promote its involvement.

In fiscal 2013, the Group made an assessment of its business activities' dependency and impact on eco-system services using the Corporate Ecosystem Services Review (ESR), a method published by the World Business Council for Sustainable Development (WBCSD). The assessment results showed a high dependency on the provisioning services of paper and fresh water used for cleaning and cooling, while a high impact was observed in the regulating services that affect climate changes by greenhouse gases emitted into the atmosphere through the use of electricity during the business activities and product use. To address these results in an effective manner, the Group will continue to promote the themes of its Environmental Vision including "Realization of low-carbon societies (e.g. greenhouse gas emission reduction)," "Prevention of Pollution (e.g. of water systems, the atmosphere and soil)" and "Resource circulation (e.g. expansion of recycling and minimization of new input resources)," in order to contribute to biodiversity conservation.

The OKI Group will continue to implement pro-active activities toward the achievement of its "Environmental Vision 2020," and bring about a better global environment to pass on to the next generation.

### Assessment Result of Dependency & Impact on Ecosystem Services

Eco-system services	Corporate operations		Customers	
	Dependency	Impact	Dependency	Impact
<b>Provisioning services</b>				
Wood and other wood fibers	● —			
Fresh water	● —			
<b>Regulating services</b>				
Climate regulation (at the global scale)		● —		● —

● High ○ Medium + Positive impact — Negative impact

## TOPICS

### Eliminating Alien Plants in Shenzhen, China

In April 2013, OKI Electric Industry (Shenzhen), the OKI Group's affiliated company in China, carried out an activity to eradicate *Mikania micrantha*, a alien plant, with the participation of approximately 100 volunteering employees. *Mikania micrantha* is listed as one of the World's 100 Worst Invasive Alien Species, issued by the International Union for Conservation of Nature (IUCN), and causes a serious impact on the native ecosystem.

Eliminating non-native plants

