KONICA MINOLTA

Giving Shape to Ideas

KONICA MINOLTA

Environmental Report

2014

Our Philosophy

The Creation of New Value

Brand Proposition

Giving Shape to Ideas

Contents

Editorial Policy

Konica Minolta reports on its major environmental efforts in Konica Minolta CSR Report 2014, and posts information in more detail on the website. The Konica Minolta Environmental Report 2014 is available in PDF format, with content focusing on the Group's basic concepts and on activities in fiscal 2013.

Report Boundary

This report covers Konica Minolta, Inc., and its consolidated subsidiaries. When data is given on a specific subset of companies, the boundary is separately indicated.

* In this report, "Konica Minolta" refers to the Konica Minolta Group. "Konica Minolta, Inc." refers to Konica Minolta, Inc., alone.

Reporting Period

In principle, the report covers activities from April 1, 2013 to March 31, 2014. Some sections may include information on earlier initiatives or more recent activities.

In this report, "fiscal 2013" refers to the fiscal year starting April 1, 2013 and ending March 31, 2014.

Publication Date

November 2014 (next report: scheduled for November 2015; previous report: November 2013)

Relevant Guidelines

In making this report, Konica Minolta referenced the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines Version 3.0 and the Environmental Reporting Guidelines 2012 issued by the Ministry of the Environment (Japan).

Business Domains

Konica Minolta leverages its advantages in the field of Business Technologies—its flagship business—as well as its Industrial and Healthcare businesses, to create new value that helps solve social issues.

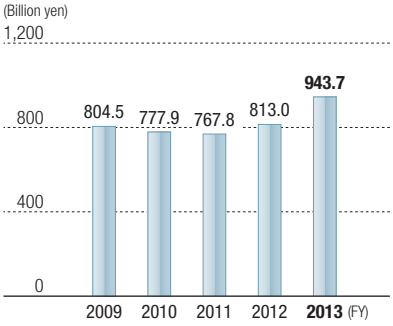
Business Segment	Principal Products	Applications
Business Technologies Business	**Office Services** ● MFPs (Multi-functional peripherals) ● Laser printers ● Filing devices ● Facsimile machines ● Software and peripheral devices ● Cloud services	● Offices
	Commercial and Industrial Printing ● Digital color printing systems ● Digital monochrome printing systems ● Digital color-proofing systems ● CTP (Computer to Plate) ● Prepress production systems ● Inkjet printheads ● Inkjet textile printers ● Inkjet print units ● Inkjet inks	● Printing companies ● Corporate printing departments ● Digital printing ● Textile dyeing ● Printed electronics
Industrial Business	**Functional Materials** ● TAC film for LCD polarizers ● VA-TAC film for increasing viewing angle ● High-precision photo plates ● Barrier film ● Functional film for windows ● Organic light emitting diode	● Electronics industries ● Auto industries ● Research institutes ● Hospitals/ Nursing homes
	Optical Systems for Industrial Use ● Lens units ● Pickup lenses for optical disks ● Spectrophotometers, colorimeters ● Illuminance meters, chroma meters ● Spectroradiometers ● Spectrometers ● Pulse oximeters ● Solar cell measurement and calibration equipment	
Healthcare Business	● Digital X-ray diagnostic imaging systems (CR, DR) ● Digital mammography ● Diagnostic ultrasound systems ● Medical imaging filing systems ● All-in-one medical imaging information workstations ● Medical management ICT services ● Diagnosis medicine	● Hospitals ● Clinics

Overview of the Konica Minolta Group

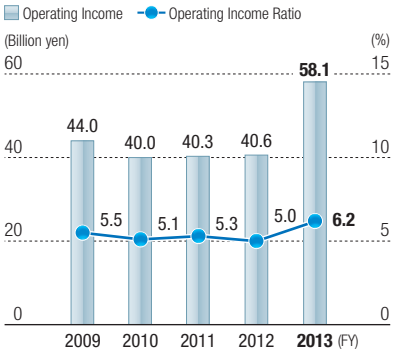
Corporate Data

Company Name	Konica Minolta, Inc.
Head office	2-7-2 Marunouchi, Chiyoda-ku, Tokyo, Japan
President and CEO	Shoei Yamana
Established	December 22, 1936
Paid-in capital	37,519 million yen (as of March 31, 2014)
Fiscal year-end	March 31
Number of employees	
Non-consolidated: approximately 6,300 (as of March 31, 2014)	
Consolidated: approximately 40,400 (as of March 31, 2014)	

Consolidated Net Sales

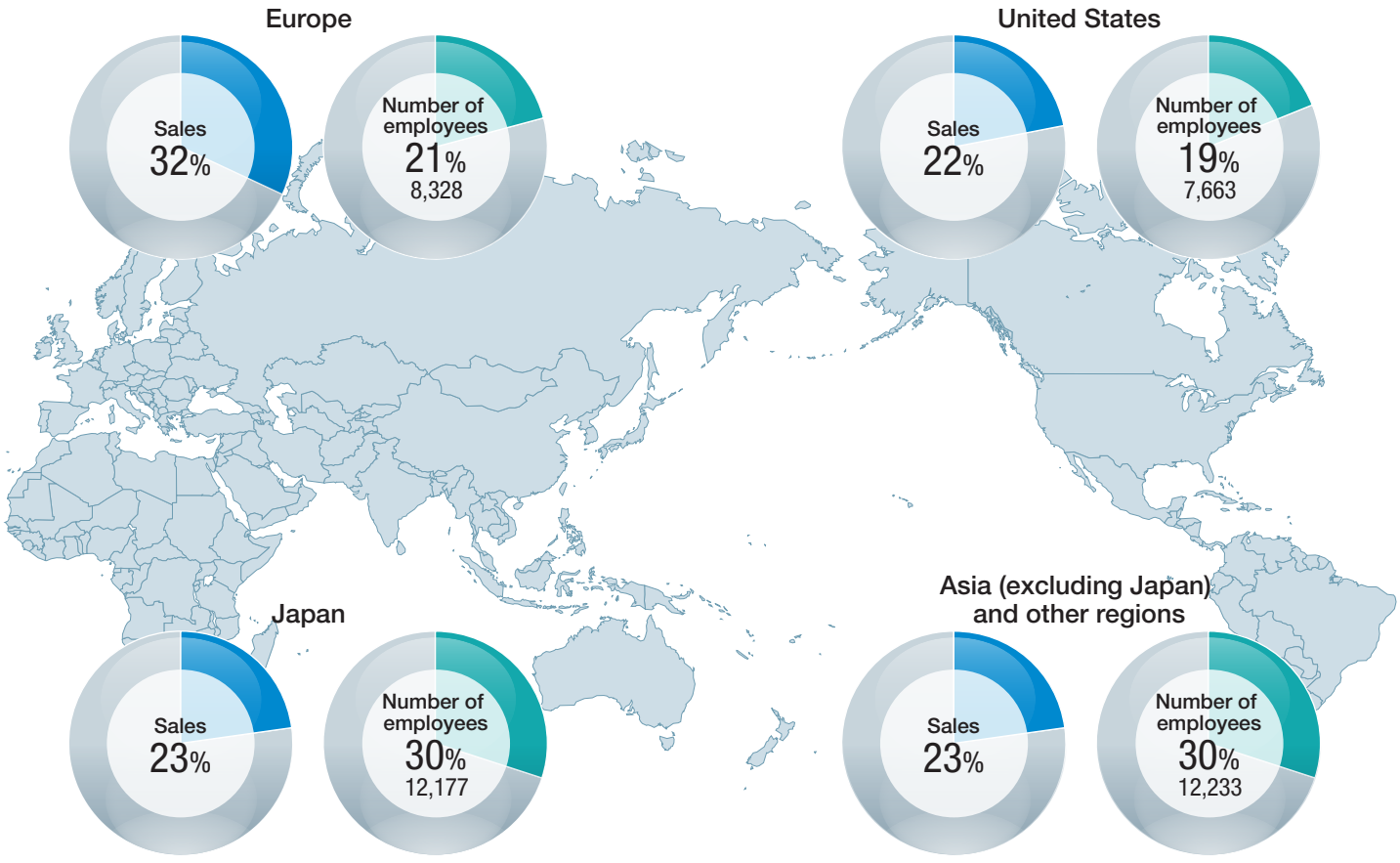


Consolidated Operating Income/ Operating Income Ratio



Global Reach

Konica Minolta has subsidiaries in 45 countries as of March 31, 2014.



Eco Vision 2050

Formulation of Eco Vision 2050 for a sustainable Earth and society

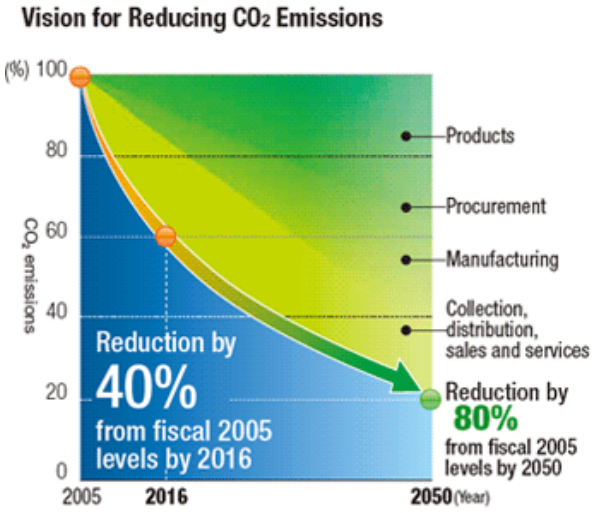
In January 2009 Konica Minolta formulated Eco Vision 2050 as its long-term environmental vision. This vision guides Konica Minolta in the right direction to achieve its future objectives and fulfill its responsibility as a global corporation by contributing to a sustainable earth and society.

Konica Minolta created the Medium-Term Environmental Plan 2016 as a milestone marker toward the goals outlined in its Eco Vision 2050.

Medium-Term Environmental Plan

Eco Vision 2050

1. Reduce CO_2 emissions throughout the product life cycle by 80% by 2050, compared to 2005 levels
2. Promote recycling and effective use of Earth's limited resources
3. Work to promote restoration and preservation of biodiversity



Approach to Setting Targets for CO_2 Emissions in Eco Vision 2050

According to the Intergovernmental Panel on Climate Change (IPCC), greenhouse gas emissions in 2004 were 49 billion t-CO_2, which, divided by a world population of 6.4 billion people, amounts to 7.66 t-CO_2 per person per year. The amount of greenhouse gases that the earth can absorb naturally is thought to be 11.4 billion t-CO_2. Divided by the projected population of 9.2 billion people in 2050, this means the earth could naturally absorb 1.24 t-CO_2 per person in 2050. That is 80% less than current annual per capita emissions.

These estimates were used to determine the Eco Vision 2050 target of an 80% reduction in product lifecycle CO_2 emissions by 2050, compared to a fiscal 2005 baseline. In addition, the Medium-Term Environmental Plan 2016 uses backcasting* from this target to set a target of a 40% reduction by fiscal 2016.

* Backcasting: A way of thinking that involves defining a future action by sketching a desirable image of the future and a goal, and then looking back at the current situation from the perspective of that goal.

Basic Approach to the Environment

Konica Minolta Environmental Policy

The Konica Minolta Group aims to promote sustainable development and profitable growth. We integrate environmental, economic and social perspectives into our business strategies so that our business activities are implemented in harmony with human lives and with the environment in all aspects.
Our concept is to make steady progress toward resolution of environmental challenges based on quantitative measurement and analysis of reliable date in regard to environmental performance and impact. This basic concept is demonstrated in the following affirmation:

"Management Based On Facts"

1.Working toward a sustainable society as a global citizen

In response to the call for a sustainable society, we will conduct business activities from the perspective of on-going enhancement of performance in environmental preservation, economic growth and social responsibilities (ethics). Every one of us will enhance its knowledge and awareness on the environment, economies and societies on a global scale and act with responsibility in pursuit of a sustainable society.

2.Compliance with laws and other requirements

We will comply with legal requirements in respective countries and regions, as well as our Group standards. In addition, we will respect, in an equitable manner, expectations of our stakeholders and consensus in the international community.

3.Consideration for the environment throughout the entire life cycle of products and services

We are committed to reducing the environmental load in all stages throughout the entire life cycle of products and services, recognizing that responsibility for a product rests with its manufacture.

4.Initiatives to counter global warming

We will continuously reduce greenhouse gas emissions that derive from our business activities from the perspective of the life cycle of our products and services throughout the entire Group, recognizing that global warming is one of the most important world issues.

5.Initiatives toward a recycling-oriented society

We are always reviewing what we can do as a corporate citizen in order to create recycling-oriented society while striving for minimizing consumption of natural resources and promoting "Zero Waste Emission" activities. In addition, we will accelerate initiatives for the recovery and recycling of end-of-life products and packaging materials.

6.Prevention of chemical pollution and minimization of potential risks to the environment

We will take every countermeasure for preventing chemical pollutions, recognizing that chemical substances can impose significant impact on human health and safety and the environment. At the same time, we will continuously suppress use of chemicals and reduce discharge volume in order to minimize environmental risks.

7.Promotion of information disclosure

We will execute accountability to all the stakeholders by actively disclosing environmental information and ensuring risk communication. We will as well make every effort to accomplish our commitment to the societies. Our Environmental Policy is to be disclosed to the public.

8.Establishment of environmental objectives and targets

We establish and administer environmental objectives, targets, and management programs to translate this Environmental Policy into reality. We will continuously review such objectives, targets and programs for further improvement of our environmental performance.

April 1, 2014
Konica Minolta, Inc.
President and CEO

Shoei Yamana

Management System

Environmental Management System

Operating management system based on ISO 14001

To ensure efficient implementation of environmental management throughout the Group as a whole, Konica Minolta operates its management system based on ISO 14001, and it has established a basic policy of requiring that all Group production sites around the world work to obtain ISO 14001 certification.

To address a range of environmental issues, it is necessary to implement measures that take into account each stage in the product life cycle. To accomplish this, Konica Minolta believes that it must operate not only its manufacturing sites, but also its product development, sales and administration divisions under an integrated management system with efficient cooperation between divisions.

Based on this concept, Group companies in Japan have acquired integrated Group ISO 14001 certification as the cornerstone of the Group's environmental management.

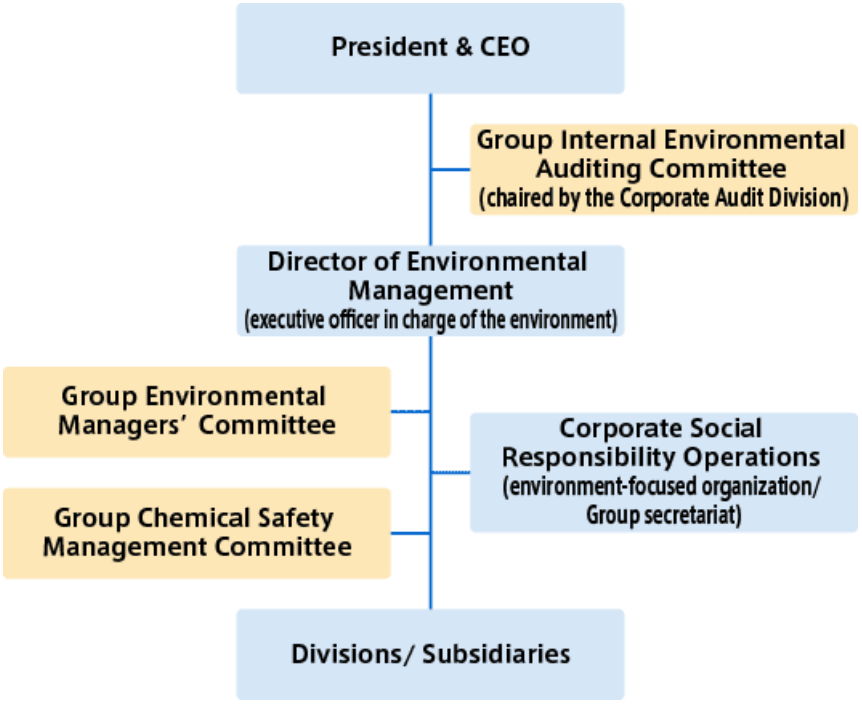
In carrying out initiatives, the Group sets key performance indicators (KPIs) and targets, assesses their degree of achievement quarterly, and works through the PDCA cycle in pursuit of continual improvement.

Organization

All aspects of environmental management overseen by the Executive Officer in charge of environmental affairs

Konica Minolta, Inc. has appointed an executive officer in charge of environmental affairs with the authority and responsibility for Group-wide environmental issues.

Furthermore, Konica Minolta has established a Group Environmental Managers' Committee headed by the General Manager of the Corporate Social Responsibility Operations as an organization for oversight of the environmental target implementation plan for the whole Group. The committee meets on a quarterly basis in principle, and in addition to promoting the environmental target implementation plan, it monitors progress and manages information concerning environmental issues across the Group.



Organization of Group environmental management

Environmental Audits

At Konica Minolta, the Group Internal Environmental Auditing Committee, which is chaired by the head of the Corporate Audit Division, directs the internal environmental auditing for the entire Group.

In addition, internal environmental audits are carried out at least once a year to confirm proper functioning of the management system and to assess compliance. In this way, the Group ensures that all its organizations are fully compliant.

Compliance with Environmental Regulations

Strengthening the global compliance system

As environmental problems such as global warming and the depletion of energy resources increase in scope to encompass entire regions, and indeed, the entire planet, government policies and regulations at the regional and national levels around the world are being reconsidered and strengthened in order to ensure sustainable growth.

As a global business enterprise, Konica Minolta is strengthening its global compliance system to ensure that all of its production sites and sales offices comply with all legal regulations.

In fiscal 2013, the Group strengthened its European environmental organizations' compliance support for sales companies in Europe. It also promoted regulation compliance at production sites and sales companies in each region (e.g. chemical substance regulations, regulations on chemicals contained in products, and recovery/recycling regulations in each country) through a system centered on environmental organizations in Europe, North America, China, and Japan.

Furthermore, the Group conducted compliance assessments of all Group production sites and confirmed the status of compliance at sales offices. No serious violations were found with regard to environment-related laws and regulations.

Strengthening the compliance system in China

As part of its efforts to strengthen its global compliance management system, Konica Minolta is working hard to assure adherence to environmental as well as health and safety regulations in China's quickly evolving regulatory environment.

The Group established an environmental umbrella organization in Konica Minolta Business Solutions (China) Co., Ltd., a sales company in China, in fiscal 2012.

The Group is making efforts in China, focused on this organization, to enhance the monitoring of trends in environmental laws and regulations related to products, comply with certification schemes, and acquire environmental labels. It is also continuing to implement compliance assessments of and regular legal review meetings at production sites.

Medium-Term Environmental Plan

Medium-Term Environmental Plan 2016

Konica Minolta has carried out various measures under the Medium-Term Environmental Plan 2015, which the company established as a milestone toward achievement of the long-term goals set out in its Eco Vision 2050. Already in fiscal 2013, more than half of the fiscal 2015 targets—the final goals of the plan—had been achieved, and it was anticipated that the remaining targets would also be achieved. Accordingly, the Group established the Medium-Term Environmental Plan 2016 for the period from fiscal 2014 to 2016 and started initiatives with the target year of fiscal 2016. Moving toward the goal of reducing CO_2 emissions throughout the product life cycle by 80% by 2050, which is a goal under Eco Vision 2050, the Group has set an overall goal for fiscal 2016 of reducing CO_2 emissions throughout the product life cycle by 40% in that fiscal year by reducing environmental impact through business operations.

Eco Vision 2050

Overall goal for fiscal 2016:
Reduce CO_2 emissions throughout the product life cycle by 40% in fiscal 2016 compared to fiscal 2005

The Group anticipates making the following CO_2 reductions in each of the scopes listed below as it heads toward achievement of this goal.

Anticipated reductions in each scope (fiscal 2016):

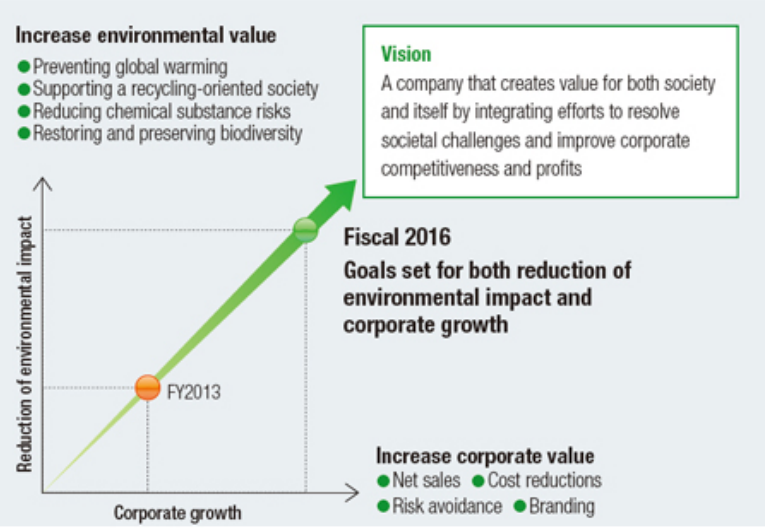
Scopes 1 and 2 (development, production, sales and service):
Reduction by 8% gross from fiscal 2005 (11% per unit of sales)
Energy use: Reduction by 12% gross from fiscal 2005 (14% per unit of sales)

Scope 3 (procurement, distribution, product use):
Reduction by 50% gross from fiscal 2005 (52% per unit of sales)

Concept Behind the Medium-Term Environmental Plan 2016: Creating Shared Value (CSV)

When formulating the new plan, the Group moved its CSR a step forward, basing the plan on the concept of “creating shared value” (CSV). CSV is the approach that sustainable companies in the 21st century will be expected to embrace, where the enterprise creates value for both society and itself by integrating efforts to resolve societal challenges and improve corporate competitiveness and profits.

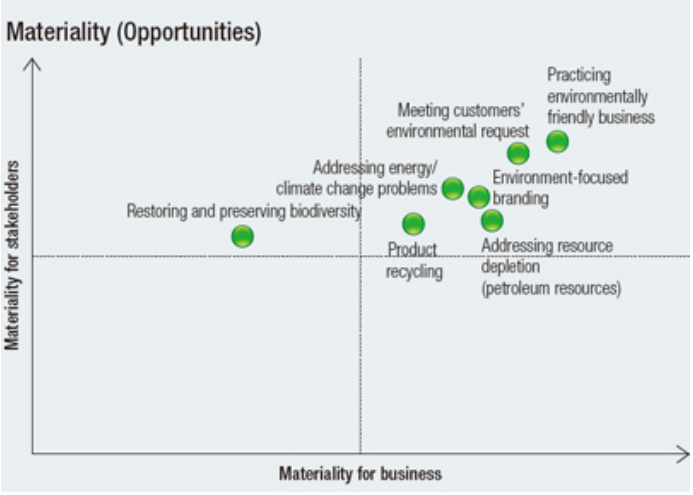
Based on this concept, the Medium-Term Environmental Plan 2016 establishes targets for both environmental impact reduction and corporate growth.

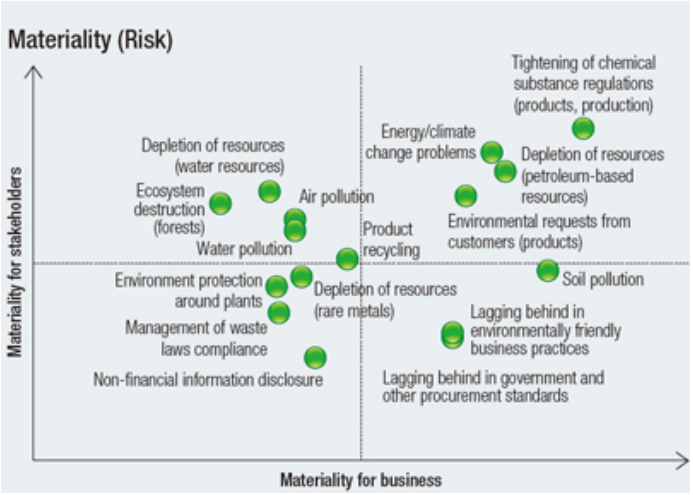


Materiality (Identifying Important Issues from Risks and Opportunities)

When formulating the Medium-Term Environmental Plan 2016, Konica Minolta conducted a materiality analysis from the perspective of risks and opportunities, incorporating the opinions of a third-party specialized institution, in order to identify important issues that affect both the environment and the company.

Specifically, it identified material risks and opportunities by selecting various issues related to the environment and assessing their impact on the interests of stakeholders including customers, shareholders and investors, suppliers, the international community, local communities, and employees, as well as their impact on the Group's business.





Important Themes and Issues

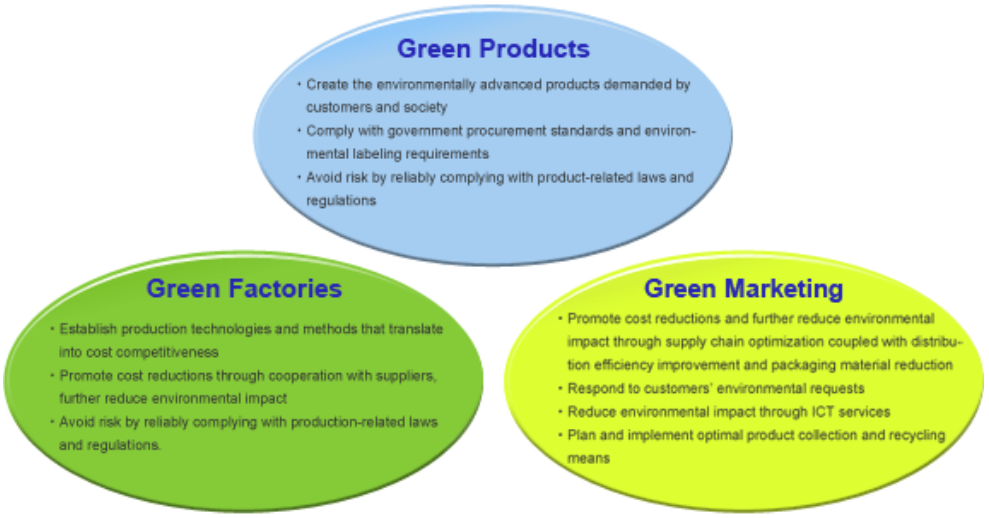
The material risks and opportunities identified through the materiality analysis were incorporated into the Medium-Term Environmental Plan 2016 as important themes and issues.

Konica Minolta's Three Green Activities—one for each phase of the lifecycle—Green Products (planning and development), Green Factories (procurement and production), and Green Marketing (distribution, sales and service, and collection and recycling) were singled out as key themes. Key issues were established for each theme from the perspective of risks and opportunities.

In terms of Green Products (planning and development), the Group will create the environmentally advanced products demanded by customers and society and comply with government procurement standards and environmental labeling requirements, in order to gain sales opportunities, further reduce environmental impact, and avoid risk by reliably complying with product-related laws and regulations.

With respect to Green Factories (procurement and production), the Group will establish production technologies and methods that translate into cost competitiveness, promote cost reductions through cooperation with suppliers, further reduce environmental impact, and avoid risk by reliably complying with production-related laws and regulations.

In terms of Green Marketing (distribution, sales and service, and collection and recycling), the Group will promote cost reductions and further reduce environmental impact through supply chain optimization coupled with distribution efficiency improvement and packaging material reduction. Furthermore, it will respond to customers' environmental requests, reduce environmental impact through ICT services, and plan and implement optimal product collection and recycling means, in order to facilitate the reduction of environmental impact for more customers.



Alongside these Three Green Activities, Konica Minolta also sets specific targets in the areas of both corporate value and environmental value.

Medium-Term Environmental Plan 2016

Important Theme	Important issues	Fiscal 2016 goals	
		Corporate value	Environmental value
Green Products (planning and development)	(1)Creating and providing the green products demanded by customers and society	<Sales> • Sales of Green Products: 640 billion yen(Share of sales: 58%) <Cost reductions> • Reduce cost of product materials <Branding> • Increase society's and customers' brand recognition	<Preventing global warming> • CO_2 reduction during product use: 97 thousand tons • CO_2 reduction at suppliers: 100 thousand tons <Supporting a recycling-oriented society> • Resources used effectively: 42 thousand tons <Reducing chemical substance risks> • Control emissions
	(2)Conforming with government procurement standards and environmental label requirements	<Sales> • Zero lost sales opportunities	<Environment overall> • Reduce environmental impact by conforming with standards and label requirements
	(3)Dependably complying with product-related laws and regulations	<Risk avoidance> • Zero effect on sales	<Reducing chemical substance risks>

			• Reduce hazardous chemical substance risk by conforming with laws and regulations
Green Factories (procurement and production)	(1)Green Factory operations that translate into cost competitiveness	<Cost reductions> • Reduce costs of energy and materials (reduce loss)	<Preventing global warming> • CO_2 reduction during production: 20 thousand tons <Supporting a recycling-oriented society> • Resources used effectively: 4 hundred tons <Restoring and preserving biodiversity> • Sustainable use of water resources
	(2)Cooperation with suppliers that translates into cost competitiveness	<Cost reductions> • Reduce costs of energy and materials (reduce loss)	<Preventing global warming> • CO_2 reduction on supplier side: 2 thousand tons <Supporting a recycling-oriented society> • Resources used effectively: 6 hundred tons
	(3)Dependably complying with production-related laws and regulations	<Risk avoidance> • Zero effect on production	<Environment overall> • Reduce environmental impact by conforming with laws and regulations
Green Marketing (distribution,sales and service,and collection and recycling)	(1)Customer-focused response to environmental requests	<Sales> • Seize sales opportunities; zero lost sales opportunities <Branding> • Increase society's and customers'brand recognition	<Environment overall> • Reduce environmental impact by responding to customer requests
	(2)Sales promotion of ICT services and reduction of environmental impact	<Sales> • Promote sales of ICT services, which reduce customers'environmental impact	<Preventing global warming> • CO_2 reduction on customer side: 42 thousand tons <Supporting a recycling-oriented society>

			• Resources used effectively on customer side: 2 thousand tons
	(3)Supply chain optimization and linked environmental initiatives	<Cost reductions> • Reduce cost of distribution and packaging	<Preventing global warming> • CO_2 reduction during distribution: 4 thousand tons <Supporting a recycling-oriented society> • Resources used effectively: 7 hundred tons
	(4)3R initiatives for products	<Risk avoidance> • Reinforce 3R initiatives	<Supporting a recycling-oriented society> • Use resources effectively through product 3R initiatives

2013 Targets and Results

In fiscal 2013, Konica Minolta worked at achieving annual targets based on the Medium-term Environmental Plan 2015.

2013 Targets and Results

Self-assessment
***: Achievement more than 100%
**: Achievement more than 80% and less than 100%
*: Achievement less than 80%

Objectives	Fiscal 2013 Targets (Base Year: Fiscal 2005)		Fiscal 2013 Results	Achievement
Preventing global warming	CO_2 emissions throughout product life cycle	-51%	-54.5%	***
	CO_2 emissions from product usage	-69%	-69.9%	***
	CO_2 emissions from manufacturing (per unit of production)	-28%	-22.7%	**
	CO_2 emissions from distribution (per unit of distribution)	-32%	-21.3%	**
	CO_2 emissions from sales and service (per unit of sales)	-47%	-48.1%	***
Supporting a recycling-oriented society	Petroleum-based resource usage (per unit)	-27%	-31.0%	***
	Packaging materials usage (per unit of sales)	-28%	-28.8%	***
	Waste discharged externally from manufacturing (per unit of production)	-42%	-45.2%	***
	Product recycling: Build product recycling systems in each region and aim for a recycling rate of 90% or more	• Materialization of next-period scenarios for re-manufactured MFPs • Implementation of packaging reduction measures	• Investigated materialization of next-period scenarios for re-manufactured MFPs but did not roll out • Finished implementing 22 measures to reduce packaging for after-sales parts	**

Reducing the risk of chemical substances	Chemical substance management: Maintain strict management of chemical substances, including the entire supply chain	• Development and application of a system for hazardous substances reduction management • Development of a system for complying with the revised RoHS Directive	• Developed and started applying internal standards for hazardous substances reduction management, including compliance with voluntary standards • Established a plan for complying with RoHS Directive revisions and phthalate regulations • Finished developing a system for complying with RoHS2	***
	Atmospheric emissions of volatile organic compounds (VOCs) (in terms of environmental impact index; per unit of production)	-92%	-94.0%	***
Restoring and preserving biodiversity	Help restore and preserve biodiversity	Pursue compliance with the Green Factory Biodiversity Guidelines	Complied with the Biodiversity Guidelines at the three units that achieved Level 2 Green Factory certification	***

Note: As of fiscal 2013, the Group has achieved more than half of the fiscal 2015 targets set out in the Medium-Term Environmental Plan 2015 and anticipates achieving the remaining targets. The Medium-Term Environmental Plan 2016 calls for the continued pursuit of the fiscal 2015 targets and also establishes more rigorous fiscal 2016 targets.

Fiscal 2014 Targets

Important theme	Important issues	Fiscal 2014 targets	
		Corporate value	Environmental value
Green Products (planning and development)	(1) Creating and providing the green products demanded by customers and society	Sales • Sales of Green Products: 540 billion yen (Share of sales: 54%) Cost reductions • Reduce cost of product materials Branding • Increase society's and customers' brand recognition	Preventing global warming • CO_2 reduction during product use: 50 thousand tons Supporting a recycling-oriented society • Resources used effectively: 24 thousand tons Reducing chemical substance risks • Reliable handle emissions
	(2) Conforming with government procurement standards and environmental label requirements	Sales • Zero lost sales opportunities	Environment overall • Reduce environmental impact by conforming with standards and label requirements
	(3) Dependably complying with product-related laws and regulations	Risk avoidance • Zero effect on sales	Reducing chemical substance risks • Reduce hazardous chemical substance risk by conforming with laws and regulations
Green Factories (procurement and production)	(1) Green Factory operations that translate into cost competitiveness	Cost reductions • Reduce costs of energy and materials (reduce loss)	Preventing global warming • CO_2 reduction during production: 1.7 thousand tons Supporting a recycling-oriented society • Resources used effectively: 0.18 thousand tons Restoring and preserving biodiversity • Sustainable use of water resources
	(2) Cooperation with suppliers that translates into cost competitiveness	Cost reductions • Reduce costs of energy and materials (reduce loss)	Preventing global warming • CO_2 reduction on supplier side: 1 thousand tons Supporting a recycling-oriented society

			• Resources used effectively: 0.3 thousand tons
	(3) Dependably complying with production-related laws and regulations	Risk avoidance • Zero effect on production	Environment overall • Reduce environmental impact by conforming with laws and regulations
Green Marketing (distribution, sales and service, and collection and recycling)	(1) Customer-focused response to environmental requests	Sales • Seize sales opportunities; zero lost sales opportunities Branding • Increase society's and customers' brand recognition	Environment overall • Reduce environmental impact by responding to customer requests
	(2) Sales promotion of ICT services and reduction of environmental impact	Sales • Promote sales of ICT services, which reduce customers' environmental impact	Environment overall • Quantitative assessment of the environmental impact reduction effects through the use of ICT services by customers
	(3) Supply chain optimization and linked environmental initiatives	Cost reductions • Reduce cost of distribution and packaging	Preventing global warming • CO_2 reduction during distribution: 0.4 thousand tons Supporting a recycling-oriented society • Resources used effectively: 0.3 thousand tons
	(4) 3R initiatives for products	Risk avoidance • Reinforce 3R initiatives	Supporting a recycling-oriented society • Use resources effectively through product 3R initiatives

Green Products (product initiatives)

System Overview

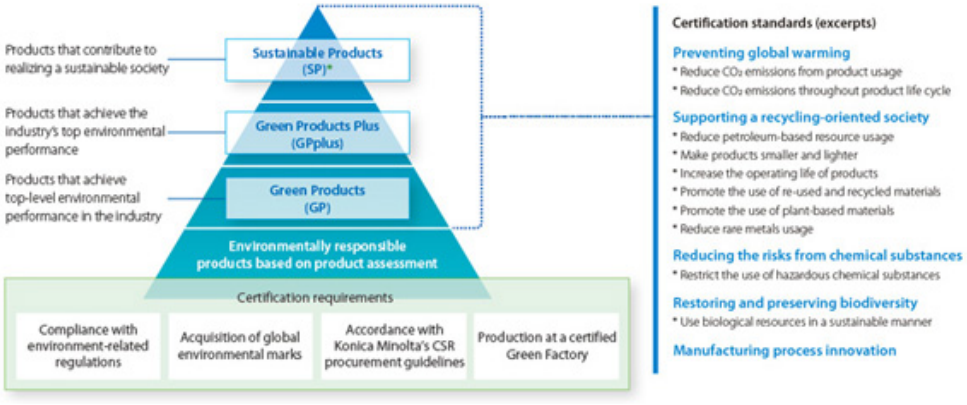
Konica Minolta is striving to develop highly competitive products that boost the company's earnings while helping customers and society reduce environmental impact.

green products

Konica Minolta has introduced a Green Products Certification System, its own unique system for evaluating and certifying products with superior environmental performance. The system aims to create environmental value suited to different businesses and product characteristics with the purpose of helping customers and society at large to reduce environmental impact.

Under this system, standards are set for each of the different businesses and product characteristics, and products that meet these standards are certified at one of three levels. The targets are basically set as early as the product planning stage. Not only must the product meet standards for environmental performance, it must also fulfill requirements such as being produced at a Green Factory certified plant, compliance with environment-related regulations and conforming to management in accordance with the Group's CSR procurement plan.

Since the system went into full operation in July 2011, 47 products in fiscal 2011, 28 in fiscal 2012, and 39 in fiscal 2013 have been certified.



* Sustainable Products (SP) certification standards require that the product not only embody superior environmental performance not typically achieved by earlier products, but also incorporate original technology. While seeking to reduce the environmental impact of all of its products by setting a very challenging certification level, Konica Minolta aims to promote innovation and contribute more proactively to sustainability.

2013 Targets and Results

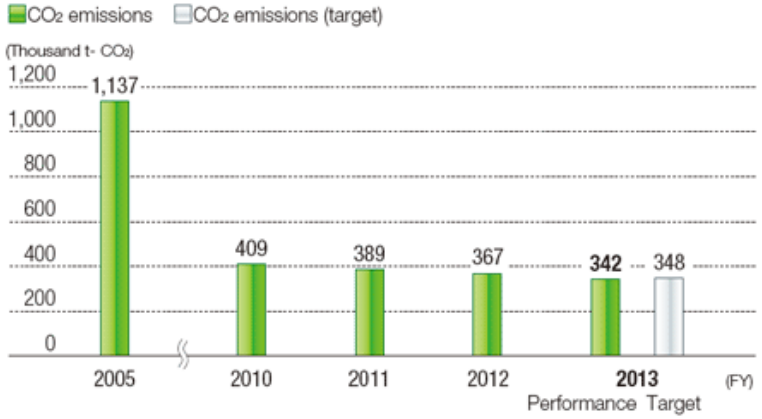
Konica Minolta has set target sales shares for green products in its medium-term environmental plan and is striving to develop highly competitive products that boost the company's earnings while helping customers and society reduce environmental impact. The environmental performance of these certified products are disclosed in catalogues, on websites, and elsewhere in an effort to spread their use.

In fiscal 2013, the sales share for Green Products Plus, which exhibits industry-leading environmental performance, reached 37%, while the overall sales share for Green Products, which have marked top-level environmental performance in the industry, reached 41%.

Target Sales Share for Green Products

		Fiscal 2013 Target	Fiscal 2013 Results
	Green Products Plus (GPplus)	20%	37%
	Green Products (GP)	30%	41%

The creation and promotion of Green Products also led to the achievement of the Group's fiscal 2013 targets for the reduction of CO_2 emissions from product usage, the reduction of petroleum-based resource usage, and chemical substance management, which are all product-related environmental goals.



CO_2 Emissions from Product Usage

Specific initiatives in each business

Initiatives in the Business Technologies Business

The Business Technologies Business pursues such features as energy savings, the use of recycled materials, and smaller, lighter bodies in its MFPs for the office and its digital printers for the production printing market.

With respect to energy savings, in addition to substantially reducing the typical electricity consumption (TEC) compared to conventional models, Konica Minolta equips these products with functions that encourage customers to save electricity, such as a built-in proximity sensor for natural recovery from sleep mode, a weekly timer that includes a learning function, and an eco indicator that visualizes electricity, paper, and toner savings.

Konica Minolta uses three types of recycled materials: recycled PC/PET, recycled PC/ABS, and bioplastic. The company has increased the fire resistance and expanded the scope of use of recycled PC/PET, which it developed with its cutting-edge chemical processing technology. Recycled PC/PET is a mixed recycled material made of recycled PC and recycled PET. Recycled PC is made by recovering and recycling gallon bottles used in water coolers while recycled PET is made by recovering and recycling PET bottles. Recycled material is used in 21 locations on the bodies of the color MFPs bizhub C554e, C454e, C364e, C284e, and C224e and the monochrome MFPs bizhub 554e, 454e, 364e, 284e, and 224e. The percentage surface area of recycled materials out of the total amount of plastic in the body has been increased to about 50%.

Initiatives in the Industrial Business

In the field of display materials, Konica Minolta has reduced environmental impact and enhanced product competitiveness by creating thinner products, such as 40 μm thick TAC film, which is one of the company's strengths, VA-TAC and 60 μm thick TAC film for large TVs, and an ultra-thin 25 μm thick TAC film, which it introduced to the mobile devices market ahead of the industry.

In the field of functional window films, Konica Minolta ensures electromagnetic wave transparency by not using metallic reflective film, thereby achieving top-level thermal insulation (the degree of the blocking of total solar energy) in a product's class against other products with the same level of brightness (visible light transmittance) in the automotive thermal insulation films market. Thus the thermal insulation effect of Konica Minolta's products helps customers reduce environmental impact by reducing energy consumption when using air-conditioning.

Initiatives in the Healthcare Business

The Healthcare Business is expanding the Aero DR series of flat panel X-ray detectors with an ultra-light design. The ultra-light design means that it is highly portable in medical settings and this translates into a lower environmental impact. Moreover, the company improved user friendliness and energy savings by substantially reducing battery-charging time through the use of a lithium-ion capacitor and energy-saving design technology in the Aero DR.

Certified Green Products

(As of April 1, 2014)

- Office Equipment
- Optical Products
- Healthcare Products
- Other products (Next-generation lighting, etc.)
- Performance Materials
- Sensing Products
- Industrial Inkjet

Certified Green Products

Green Products (Office Equipment)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

Color MFP “bizhub C25” <GP>

(ii) - Top class lightweight (45% reduction compared to our conventional model).
- Adopted plant-based biomass resin for toner.

Color MFP “bizhub C754/654” <GPplus>

(i) * Best in class in low power consumption (TEC) (as of the February 2012 launch).
bizhub C754 : 5.66kWh/week
bizhub C654 : 4.94kWh/week

(ii) * Best in class in compact size (as of the February 2012 launch).
* The industry's first using fire resistance and recycled PC/PET (as of the February 2012 launch date).

Color MFP “bizhub C554/C454/C364/C284/C224” <GPplus>

(i) - More than 30% reduction of power consumption (TEC) (compared to our previous model).
bizhub C554 : approx. 34% reduction (compared to bizhub C552DS)
bizhub C454 : approx. 37% reduction (compared to bizhub C452)
bizhub C364 : approx. 39% reduction (compared to bizhub C360)
bizhub C284 : approx. 42% reduction (compared to bizhub C280)
bizhub C224 : approx. 44% reduction (compared to bizhub C220)

(ii) * Uses first-in-class flame-resistant recycled PC/PET (as of the June 2012 launch date).

(iv) - Industry-top-class quietness when operated (as of the June 2012 launch date).

Color MFP “bizhub C554e/C454e/C364e/C284e/C224e” <GPplus>

(i) - More than 8% reduction of power consumption (TEC[*1]) (compared to our previous model).
bizhubC554e : approx. 8% reduction (compared to bizhub C554)
bizhubC454e : approx. 11% reduction (compared to bizhub C454)
bizhubC364e : approx. 13% reduction (compared to bizhub C364)
bizhubC284e : approx. 17% reduction (compared to bizhub C284)
bizhubC224e : approx. 18% reduction (compared to bizhub C224)
(ii) * Uses first-in-class flame-resistant recycled PC/PET (as of the May 2013 launch date).
(iv) - Industry-top-class quietness when operated (as of the May 2013 launch date).

Color MFP “bizhub C754e/C654e” <GPplus>

(ii) * First-in-class in installation-area saving and compact size (as of launch in July 2013).
* Uses industry top-class flame-resistant recycled PC/PET (as of launch in July 2013).
- Wasted copy reduction function
>Helps reduce customer paper consumption and waste, using print preview and a blank copy elimination function

(i) - Auto power saving function
>Helps reduce power consumption (CO_2 emissions) and customer utility costs using a weekly timer and eco-indicator display.

A4 color MFP “bizhub C3850/C3350” <GPplus>

(ii) * Uses first-in-class flame-resistant recycled PC/PET (as of launch in March 2014)
- Wasted copy reduction function
>Helps reduce customer paper consumption and waste, using print preview and a blank copy elimination function.

(i) - Cloud connectivity function
>Helps improve customer efficiency through direct printing and scanning using cloud computing.

Monochrome MFP “bizhub 42/36” <GP>

(ii) - The industry's smallest and lightest in the A3 MFPs (as of the November 2011 launch).
- Adopted plant-based biomass resin for toner and a label on the body.

bizhub PRO 951 <GPplus>

(ii) * First in class using fire-resistant, recycled PET (as of the May 2012 launch date).
* Employs plant-based biomass resin for main unit and toner.

Monochrome MFP“bizhub 754/654/754e/654e” <GPplus>

(ii) * Uses industry top-class flame-resistant recycled PC/PET (as of launch in Sept. 2013)
(i) - Wasted copy reduction function
>Helps reduce customer paper consumption and waste, using print preview and a blank copy elimination function

(i) - Auto power saving function
>Helps reduce power consumption (CO_2 emissions) and customer utility costs using a weekly timer and eco-indicator display

Monochrome MFP“bizhub 554e/454e/364e/284e/224e” <GPplus>

(ii) * Fist-in-class in low power consumption (TEC)
*bizhub 224e: 1.20 kWh (as of launch in Sept. 2013)
-Substantial reduction in power consumption (TEC) compared to our previous models
bizhub 554e : approx. 36% reduction (compared to bizhub 552)
bizhub 454e : approx. 6.7% reduction (compared to bizhub 423)
bizhub 364e : approx. 22% reduction (compared to bizhub 363)
bizhub 284e : approx. 36% reduction (compared to bizhub 283)
bizhub 224e : approx. 44.9% reduction (compared to bizhub 223)

-Auto power saving function
>Helps reduce power consumption (CO2 emissions) and customer utility costs using a weekly timer with learning function

(ii) *Uses industry top-class flame-resistant recycled PC/PET
*First-in-class in installation surface area *bizhub 554e (as of launch in Sept. 2013)
-Wasted copy reduction function
>Helps reduce customer paper consumption and waste using a blank copy elimination function

Monochrome Printing System bizhub PRESS 1250/1250P/1052

(ii) * Uses first-in-class flame-resistant recycled PET (as of launch in August 2012)
(iV) * Uses plant-based bioplastic in the body and toner

Full-color digital printing system: bizhub PRESS C1070/C1070P/C1060/C1060L <GPplus>

(ii) * Uses first-in-class flame-resistant recycled PET (as of launch in March 2014)
- Features plant-based biomass resin in the main unit and toner cartridge

Certified Green Products

Green Products (Performance Materials)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

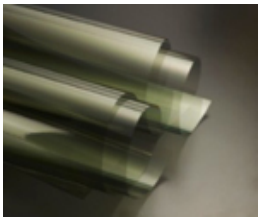
ICE-μ CT70heat protection film <GP>
ICE-μ SS70heat protection film <GP>

(i) - Achieved best-in-class heat-protective performance*
>Helps lower air conditioning load for the customer's vehicle, by providing a high level of heat shielding performance (high rate of total solar energy shielding), while maintaining interior brightness (high rate of visible light transmittance)

* Electromagnetic permeable, 70% visible-light transmission class

ICE-μ SS85 heat protection film <GP>

(i) - Achieved best-in-class heat-protective performance[*1]
- 6% improvement[*2] in the fuel economy of the customer's vehicle
>Helps lower air conditioning load for the customer's vehicle, by providing a high level of heat shielding performance (high rate of total solar energy shielding), while maintaining interior brightness (high rate of visible light transmittance)



*1 Electromagnetic permeable, 86% visible-light transmission class

*2 Based on Konica Minolta testing

Certified Green Products

Green Products (Optical Products)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

Zoom lenses for digital still cameras, Green Products Registration No. OT-1 <GP>

(i) - 33% reduction of CO_2 emissions from product usage (compared to our previous device).
- 20% reduction of CO_2 emissions throughout product life cycle (compared to our previous device).

Zoom lenses for digital still cameras, Green Products Registration No. OT-2 <GP>

(ii) - 24% of weight reduction (compared to our previous device).

Zoom lenses for digital still cameras, Green Products Registration No. OT-5 <GP>

(i) - 11% reduction of CO_2 emissions from manufacturing process of lenses (compared to our previous device).
(ii) - 16% of weight reduction (compared to our previous device).

Micro-camera module for mobile phone, Green Products Registration No. OT-1 <GP>

(i) - 85% reduction of power consumption of actuators for auto-focusing (compared to our previous device).
(ii) - 25% of volume reduction (compared to our previous device).
- Eliminating use of neodymium for actuators to drive lenses

Zoom lenses for digital still cameras, Green Products Registration No. OT-6 <GP>

(i) - 12% of volume reduction (compared to our previous device).

Zoom lenses for digital still cameras (Green Products registration number: OP-6) <GP>

(ii) * 52% of volume reduction and 57% of weight reduction (compared to previous device).

Zoom lenses for digital still cameras (Green Products registration number: OP-7) <GP>

(i) * 14.2% reduction in CO_2 emissions throughout product life cycle (as assessed at time of lens production).
(ii) * 5.3% weight reduction (compared to previous device).

Optical microscope lens for semiconductor inspection equipment(Green Product registration number OP-9, OP-10) <GP>

(ii) *Reduction in the weight to use ratio for the rare earth metal lanthanum (compared to previous device).
OP-9: 82% reduction
OP-10: 21% reduction

Digital cinema zoom lens (Green Product registration number OP-12) <GP>
Digital cinema zoom lens (Green Product registration number OP-13) <GP>
Digital cinema zoom lens (Green Product registration number OP-14) <GP>
Digital cinema zoom lens (Green Product registration number OP-15) <GP>
Digital cinema zoom lens (Green Product registration number OP-16) <GP>

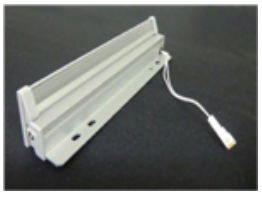
(ii) *Reduced use rate by weight of rare earth lanthanum (compared to conventional model)
OP-12: 70% reduction
OP-13: 58% reduction
OP-14: 83% reduction
OP-15: 25% reduction
OP-16: 46% reduction

Lens unit for digital still cameras(GP Registration No. OP-18) <GP>

(i) - While maintaining optical performance, product lifecycle CO_2 emissions (during lens manufacturing) have been lowered by 11.1% by reducing the number of lens elements compared to the previous model.

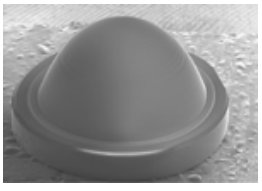
LED shelf lighting for refrigerator/freezer showcases, Green Products Registration No. OT-3 <GPplus>

(i) * Development of a specially-shaped light guiding panel that effectively spreads the light from LEDs allowed a reduction of approximately 70% of the energy consumption of fluorescent shelf lighting.
(ii) - Has over double the life of fluorescent lighting.



BD/DVD/CD-compatible plastic single objective lens for optical disks, Green Products Registration No. OT-4 <GPplus>

(ii) * The industry's first BD/ DVD/CD-compatible plastic single objective lens for optical disks using diffraction optics technology. The use of petroleum-based resources has been reduced by over 50% (compared to our conventional devices).
* Smaller size made possible by reducing approximately 30% off the total length and outside diameter (compared to our conventional devices).



Certified Green Products

Green Products (Sensing Products)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

Reference PV cell "AK-100/110, AK-200, AK-120/130/140, AK-300" <GP>

(i) - Until now it has been difficult for anyone other than testing laboratories with specialized equipment to evaluate solar cells. The Reference PV cell AK-200 makes it possible for development and manufacturing sites to obtain highly reliable values and therefore is contributing to the R&D and rapid popularization of solar cells. (Contribution to the general adoption of renewable energy)

Chlorophyll meter "SPAD-502Plus" <GP>

(iv) - Compared with other methods for measuring the amount of chlorophyll in plants such as rice, including chlorophyll measurement, infrared digital camera analysis and so on, the SPAD- 502Plus is portable and enables quick, simple and non-destructive measurement. Understanding the growth of crops makes it possible to apply the optimum quantity of fertilizer, avoiding over-fertilization and contributing to reduced environmental impact. (Sustainable use of biological resources)

Spectrophotometer "CL-500A" <GP>

(i) - CL-500A is the world's first portable spectrophotometer calibrated to JIS/DIN standards. It is capable of evaluating how well the colors of objects can be rendered (color rendering). As a tool for evaluating color rendering, a diagnostic criteria for installed lighting proposed by the Ministry of the Environment in its Basic Policy for the Promotion of Procurement of Eco-Friendly Goods and Services, it contributes to research and development and quality improvements in energy-saving lighting, bearing in mind the quality of light.

Chroma meter "CL-200A" <GP>

(i) - CL-200A is a handheld device for measuring color temperature based on miniaturization, optical and filter technologies. It contributes to the development of energy-saving lighting and lighting control systems that take into account the quality of light, such as the safety and comfort of the light environment.

Illuminance meters "T-10A / MA" <GP>

(i) - As a high-precision, high-quality portable illuminance meter with multipoint measurement functions, it contributes to promoting energysaving design in a wide range of fields related to lighting. It is an effective tool for checking not only illumination light sources themselves, but also light intensity and quality control and the energy-saving and safety properties of lighting in production areas and office environments.

Certified Green Products

Green Products (Healthcare Products)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

Cassette digital radiography detector “AeroDR” <GPplus>

(i) - Energy consumption when reading images has been cut by approximately 60%, and 90% when on standby (compared to our conventional devices). Continuous standby has been extended to 16 hours.
(ii) * Main unit weight 2.9kg (including battery). The world's lightest wireless DR (as of the April 2011 launch).

Cassette digital radiography detector “AeroDR 17x17HQ” <GPplus>

(i) - Energy consumption when reading images has been cut by approximately 60%, and 90% when on standby (compared to our conventional devices). Continuous standby has been extended to 16 hours.
(ii) * Main unit weight 3.6kg (including battery). The world's lightest wireless DR of 17x17 inches (as of the February 2012 launch).

Cassette digital radiography detector “AeroDR 10x12HQ ” <GPplus>

(i) - Approx. 22% reduction in power consumption during image reading (compared to our previous model).

(ii) * World's lightest 10" x 12" wireless DR, at 1.7 kg for the main unit including battery (as of launch in July 2013).
- 77% reduction in foamed-resin packaging usage (compared to our previous model).

AeroDR System component: “AeroDR Cradle 2” <GP>

(i) - Approx. 18% reduction in maximum power load during recharging (compared to our previous model).

(ii) - Installation space reduced by 49%, and product weight by 21% (compared to our previous model).
- Complete elimination of foamed-resin packaging
- Multi-size support
>Helps customers to save space and improve work efficiency by supporting AeroDR products of differing sizes.

Desktop CR “REGIUS Σ” <GPplus>

(i) - Power consumption at 100VA, less than 1/10 that of a film processor.
- 64% reduction of CO_2 emissions throughout product life cycle (compared to our conventional CR).
(ii) * The world's lightest cassette CR system at 28kg (as of the April 2011 launch).

Desktop CR “REGIUS ΣII” <GPplus>

(i) - Power consumption on driving has been cut by 20%, and 30% on standby (compared to our conventional devices).
(ii) * The world's lightest cassette CR system at 28kg (as of the June 2012 launch).

Certified Green Products

Green Products (Industrial Inkjet)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

Inkjet printheads, KM1024 Series (KM1024L/ KM1024M/ KM1024S) <GP>

(i) - Approximately 50% reduction of CO_2 emissions during product usage by the development of the low-capacitance actuator (compared to our conventional devices).
(ii) - Approximately 20% reduction of the amount of petroleum-based resources usage. (compared to our conventional devices).
- Approximately 20% reduction of the space to be equipped and approximately 20% of weight reduction by slimming of the head (compared to our conventional devices).
- Approximately 70% reduction of consumption of the rare metal (compared to our conventional devices). :
(iii) - Approximately 70% reduction of hazardous chemical substances (compared to our conventional devices).

* The above data applies to the environmental performance of KM1024M (14pl).

Inkjet head KM1024i <GP>

(i) *Reduced use of petroleum-based resources by 61% per unit printing ability (compared to previous model)
Reduced weight by 68% per unit printing ability (compared to previous model)
(iii) *Reduced use of lead contained in PZT by 69% per unit printing ability (compared to previous model)

Certified Green Products

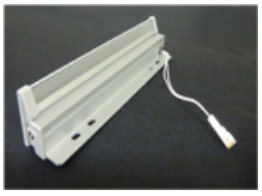
Green products (Other products:Next-generation lighting, etc.)

Applicable product <Green Products category>

Environmental performance
(i) : Preventing Global Warming, (ii) : Supporting a Recycling-Oriented Society, (iii) : Reducing the Risk of Chemical Substances, (iv) : Restoring and preserving biodiversity, (v) : Enhancing environmental comfort of products when operated
* : Industry-top environmental performance or industry-first environmental technologies

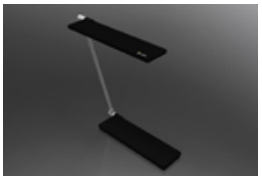
LED lighting unit for refrigerator/cooling rack (Green Products registration number: OT-3) <GPplus>

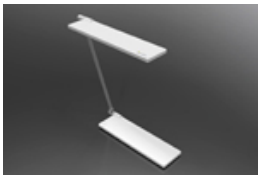
(i) * Development of a specially shaped light guiding panel that effectively spreads the light from LEDs allowed a reduction of approximately 70% of the energy consumption of fluorescent shelf lighting.
(ii) * Has over double the life of fluorescent lighting.



LED lighting <GPplus>
Symfos LED-TASKLIGHT (standard type) A5KH-200 (black)/ A5KH-300 (white) <GPplus>
Symfos LED-TASKLIGHT (high color rendering/high color temperature type) A5KH-410 <GPplus>
Symfos LED-TASKLIGHT (Qi wireless recharging function model) A6KH-200 (dark blue)/A6KH-300 (off-white) <GPplus>

(i) * A light that is gentle on the eyes and in which the peculiar brightness of LED and multiple shadows has been reduced by developing a light guide plate that can change the LED light source into surface lighting
* The highest level of electricity consumption efficiency was achieved with a surface-emitting light using a light guide plate





Provision of product environmental information

Actively supplying information concerning products using environmental labels

Type I Environmental Labels

Konica Minolta is actively promoting the acquisition of Type-I environmental certification labels. These labels indicate that a third-party institution has certified the low environmental impact of a product.

Blue Angel Mark

Launched in Germany in 1978 as the world's first environmental labeling system, the Blue Angel Mark is granted to certify products and services that have a smaller environmental impact. Since receiving the world's first Blue Angel certification in the field of copiers in January 1992, Konica Minolta has continued to receive certification for new products by clearing the certification bar each time it has been raised.

Eco Mark

The Eco Mark was established by the Japan Environment Association in 1989 as a standard environmental labeling system in Japan. Konica Minolta's basic policy is to obtain Eco Mark certification for all its office equipment.

EcoLogo

Established by the Canadian government in 1988, EcoLogo is North America's most widely respected environmental standard and certification system. In 2009, Konica Minolta obtained EcoLogo certification, ahead of the competition, for 12 of its MFPs in the newly established Office Machines category.

China Environmental Labeling Product Certification for Low-carbon Products

In 2010, the Chinese Ministry of Environmental Protection introduced a new low-carbon product certification system targeting four categories: MFPs, printers, household refrigerators, and household washing machines. Konica Minolta's high environmental performance based on the company's proprietary technology was evaluated, with the result that the monochrome MFP bizhub 164 and other models were granted certification.

Hong Kong Green Label Scheme

This environmental standard and certification mark is run by the Hong Kong Green Council, a nonprofit organization. To be certified, products are required to meet stringent standards concerning reduction of harmful substances and consideration for environmental impact throughout the product life cycle. In March 2011, Konica Minolta received certification for three color MFP models, becoming the first MFPs to be certified.

International Energy Star Program

Products that meet certain standards can be registered as Energy Star devices as part of an energy-saving program for OA equipment. Implemented in 1995 through an agreement between the Japanese and US governments, the international program has now expanded with the participation of the Europian Union, Canada, Australia, New Zealand, Taiwan, and other countries.
Almost all of Konica Minolta's MFPs and laser printers meet the Energy Star standards.

Eco Leaf Environmental Label

Type-III environmental labeling provides information on the environmental impact of a product, based on quantitative measurement of environmental impact through the product's entire life cycle, from raw material procurement to production, sales, usage, disposal, and recycling.
Konica Minolta discloses environmental impact data concerning its office equipment through the Eco Leaf system of Type-III environmental labeling.
Eco Leaf offers a system certification tool whereby a third-party institution certifies that a company has mechanisms for the proper and effective gathering of environmental impact data. Konica Minolta has obtained this certification for its copier and printer businesses.

› Eco Leaf Environmental Label

EPEAT(Electronic Product Environmental Assessment Tool)

EPEAT has been a comprehensive environmental rating that helps identify greener computers and other electronic equipment since 2006. Imaging equipment was added as a new product category in 2013. The EPEAT is managed by the Green Electronics Council, a non-profit organization based in Portland, Oregon. It ranks products as gold, silver or bronze based on 59 environmental performance criteria considering life cycle of imaging equipment.

Learn more about EPEAT® certification

› Information for EPEAT

- 4.7.2.1 Public disclosure of key environmental aspects
- 4.7.2.2 Public disclosure of supply chain toxics
- 4.3.4.1 Preparation of product end-of-life characterization report
- 4.3.3.1 Notification regarding the identification of both materials and components that have hazardous haracteristics or special handling needs

For criteria except the above, please visit here.

Management of chemical substances in products

Green Procurement System

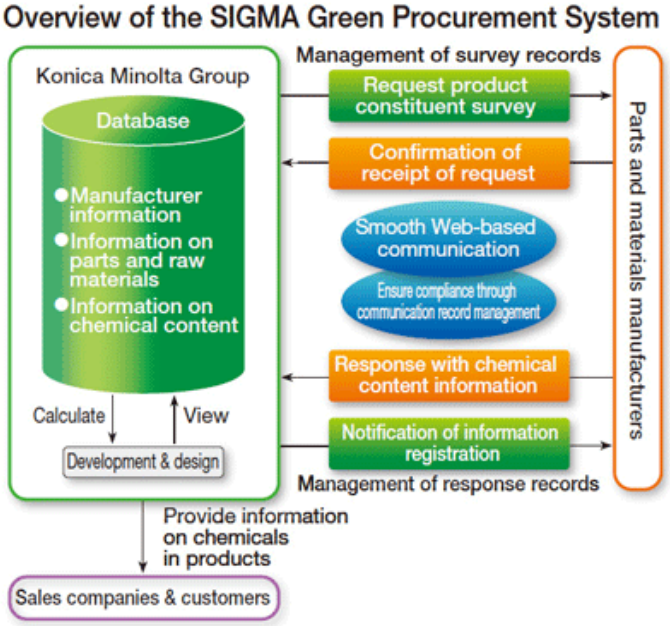
Implementation of a Green Procurement System compliant with more stringent chemical substance regulations

Konica Minolta implements green procurement, assessing the chemical constituents of parts and components and giving preference to those with the least environmental impact.

The Group has incorporated the International Electrotechnical Commission's IEC 62474 standard, in order to ease the data-gathering workload on suppliers as much as possible in today's increasingly complex regulatory environment. The Group also periodically holds supplier briefings on trends in environmental laws and regulations and revisions to Konica Minolta standards.

Along with its efforts to ensure compliance with the revised RoHS directive, theThe Group is also currently operating a green procurement system called SIGMA, which has been made compliant with the tightening of regulations on chemical substances in products by expanding its coverage to include candidate SVHCs for authorization and other substances restricted under REACH regulations.* The Group is keeping an eye on trends in regulations and alternative technologies and is working on plans to eliminate hazardous materials in order to be sure it avoids risks.

* REACH regulations: Regulations enacted by the EU in June 2007 concerning the registration, evaluation, authorization and restriction of chemicals, to consolidate existing regulations concerning chemical substances.



Main Features

• Japanese, English and Chinese language support

• Supports two standard chemical substance surveys (JAMP*1 and JGPSSI*2) and independent methods.

• Separates the procedures for checking for prohibited substances and for collection of information on reported substances in products

• Sharing of information from survey and response with business partners

• Databasing of communication records ensures compliance through tracking

• Simplifies the response to changes in regulations and substances subject to control

*1 JAMP: Standards for chemical substance surveys established and implemented by the Joint Article Management Promotion-consortium.

*2 JGPSSI: Standards for chemical substance surveys established and implemented by the Japan Green Procurement Survey Standardization Initiative.

Green Factories (procurement and production initiatives)

System Overview

Konica Minolta aims to create highly efficient production sites that minimize inputs of energy and resources, cut costs, and reduce environmental impact.

Konica Minolta has operated its original Green Factory Certification System for comprehensive evaluation of the environmental activities at its production sites since 2010. The purpose of this system is to bring costs down and reduce environmental impact by developing activities in line with each business's production strategy.

In this system, not only progress toward targets but also the implementation process is evaluated. In order to achieve clarity in the evaluation, guidelines have been prepared and a way created to quantify implementation conditions with a score. The guidelines bring together all of Konica Minolta's know-how in environmental measures and are comprised of approximately 250 implementation items as well as the evaluation standards for each item. The Group uses the guidelines to improve the quality of its activities.

Green Factory Certification Standards

Objectives	Management Indicators		Level 1	Level 2
Preventing global warming	CO_2 emissions (per unit of production*1)		12% reduction*6	20% reduction*6
Supporting a recycling-oriented society	Zero waste activities	Waste discharged externally*2 (per unit of sales*3)	30% reduction*6	50% reduction*6
		Final disposal rate of total waste	0.5% or less	0.5% or less
	Petroleum-based resource waste*4 (per unit of sales)		30% reduction*6	50% reduction*6
Reducing the risk of chemical substances	Atmospheric emissions of volatile organic compounds (VOCs)		Achievement of Fiscal 2011 Targets at each site based on Medium-Term Environmental Plan 2015	Achievement of fiscal 2015 targets at each site based on Medium-Term Environmental Plan 2015
	Guidelines for managing soil contamination risk		-	Consistent with guidelines
Restoring and preserving biodiversity	Guidelines for biodiversity preservation (consideration of water resources and wastewater, and proper management of greenery at factories)		-	Consistent with guidelines
Guideline-based activities	Achievement rate of implemented items*5		70% or more	90% or more

*1 Per unit of production: Environmental impact in terms of production output or production volume. Each business unit selects the measure that enables its productivity versus CO_2 emissions to be evaluated appropriately.

*2 Waste discharged externally: Volume discharged outside Konica Minolta sites, obtained by subtracting the internally recycled and reduced volumes from the total waste generated in production processes.

*3 Per unit of sales: Environmental impact in terms of sales.

*4 Petroleum-based resources waste: Volume of petroleum-based out of total volume of waste discharged externally.

*5 The guidelines have a 4-point evaluation benchmark ranging from 0 to 3 points for each implemented item and a standard score which serves as the performance target. The achievement rate refers to the percentage of items that meet the standard score relative to all items.

*6 The base year is fiscal 2005. Based on this numerical value, standards tailored to factory characteristics are established. However, in the event that there is a significant change to production items or production conditions due to business reorganization, the base year may be revised according to the Group's internal regulation.

- Guidelines for managing soil contamination risk
- Guidelines for Biodiversity Preservation

Green Factory Achievement Units

Konica Minolta's goal is to carry out initiatives in line with the Green Factory Certification System so that all business units achieve Level 2 in fiscal 2015.

In fiscal 2012, five business units (two in China and three in Japan) achieved Level 2 followed by three business units (one in China and two in Japan) in fiscal 2013, bringing the total to eight business units.

In fiscal 2013, these efforts produced a reduction of CO_2 emissions of about 57,000 tons and a reduction in the volume of external emissions of about 10,000 tons from the base year of fiscal 2005.

* A single business unit is an organization engaged in the same production activities even across different locations. A single location may include several business units.

- Green Factory Level 1 Achievement Units (PDF:31KB)
- Green Factory Level 2 Achievement Units (PDF:48KB)

Green Factory Level 2 Achievement Units

(i): Preventing global warming; (ii): Support for a recycling-oriented society; (iii): Reduction of the risk of chemical substances; (iv): Preserving biodiversity and managing soil contamination risk

Business Unit	Product	Main Measures	Year Achieved
Konica Minolta Opto Products Co., Ltd.	Pickup lenses for optical disks, lenses for laser printers	(i)Reduction in cycle time; increase in yield (ii)Reduction in the volume of waste runners produced, by reducing the diameter of unneeded plastic runners produced during plastic molding; reduction in raw materials (iv) Confirmation through WET testing using bioassays thagt waste water emitted to public water areas has no effect on the ecosystem	Fiscal 2012
Konica Minolta Opto (Dalian) Co., Ltd.	Pickup lenses for optical disks, glass lenses, lens units	(i)Increase in production efficiency through installation of automated machinery; improvement in work procedures for each process; increase in machine utilization (ii)Reduction in emission of waste runners by reducing the diameter of unneeded plastic runners produced during plastic molding; reduction in raw materials (iii)Reduction in discharge to the atmosphere of IPA through installation of automated machinery	Fiscal 2012
Konica Minolta Optical Products (Shanghai) Co., Ltd.	Lens units, optical modules, prisms, etc.	(i)Reduction in process area through changes in layout; reduction in cycle time; increase in yield (ii)Reduction in raw materials by reducing the diameter of unneeded plastic runners produced during plastic molding; expansion of effective use of waste runners	Fiscal 2012
Konica Minolta Technoproducts Co., Ltd. (Sayama)	Medical diagnostic imaging systems, photostimulable phosphorplates (FPD)	(i)Increase in production efficiency through changes in layout of production lines; space streamlining; increase in yield (ii)Reduction in packaging materials through effective product packaging	Fiscal 2012
Konica Minolta Technoproducts Co., Ltd. (Hino)	Photostimulable phosphorplates (CR)	(i) Increase in yield through reinforced dust protection (ii) Reduction in waste liquid through recycling of coating solution (iv) Management and protection based on a manual for rare species  (golden orchid; Cephalanthera falcata) on site	Fiscal 2012
Konica Minolta Business Technologies (Wuxi) Co., Ltd.,	Business technologies products such as MFPs as well as parts and	(i)Reduction in air-conditioning and lighting energy through productivity improvement measures based on Industrial Engineering (IE) Work Analysis (ii)Reduction in resin usage through	Fiscal 2013

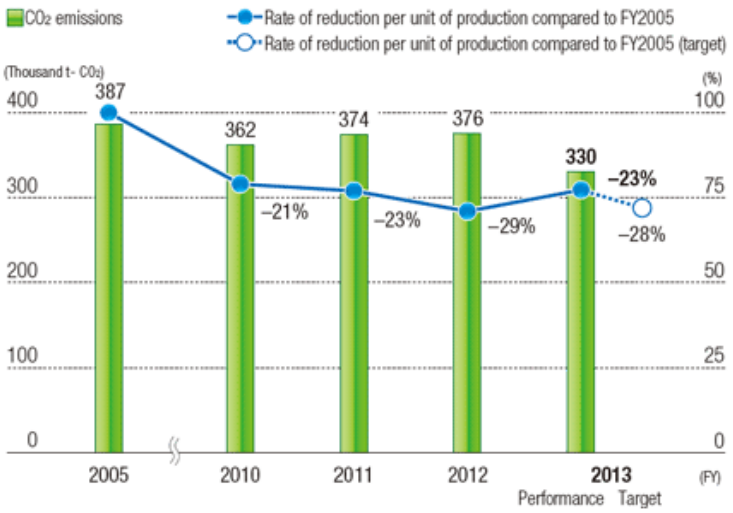
	consumables	development and adoption of molding dies that do not generate mill ends	
Konica Minolta Opto Device Co., Ltd.,	• Lens unit for projectors • interchangeable lens	(i)Improvement in yield rate and improvement in production efficiency (ii)Recycling of solvent for washing and reuse of packaging materials (iii) Reduction in atmospheric emissions of IPA for washing through installation of a VOC removal device	Fiscal 2013
Sensing Business Unit, Konica Minolta, Inc., Optics Company (Sakai Site)	• Measuring instruments for industrial use and medical use	(i)Improvement in production efficiency and optimization of equipment operation (ii)Reuse of packaging materials (iii)Complete review of the safety of subsidiary materials	Fiscal 2013

Energy savings and fighting global warming in production

Fiscal 2013 Targets and Results

Konica Minolta strove to reduce CO_2 emissions per unit of production using its Green Factory Certification System.

In order to reduce CO_2 emissions caused by production activities, Konica Minolta has operated its original Green Factory Certification System for comprehensive evaluation of the environmental activities of its production sites and improving energy productivity. In fiscal 2013, the Group moved forward systematically with energy-saving measures designed to minimize the effect of soaring energy prices. Despite these efforts, the target for fiscal 2013 was not attained due to the Group's withdrawal from the hard disk business and the reduction of production efficiency caused by the lower volume of display materials produced. Our continued efforts to reduce CO_2 emissions per unit of production in line with our Green Factory Certification System resulted in CO_2 emissions reduction by about 57,000 tons compared to the fiscal 2005 baseline.



CO_2 Emissions Resulting from Production Operations

Featured Initiative

Applying Expertise Acquired in Japan to Production Sites in China

Konica Minolta Business Technologies (Wuxi) Co., Ltd., in Jiangsu, China, adopted Industrial Engineering (IE) Work Analysis in 2012 as a new method for reducing environmental impact by improving productivity.

To adopt this method, Konica Minolta globally deployed its expertise on analysis accumulated in Japan. By thoroughly reconsidering the workability and flow of production lines at the Wuxi factory, the company there reduced production space, shortened production times, and cut energy consumption, including for air conditioning and lighting.

As a result of these initiatives, in March 2014 the Wuxi factory became the first production site for business technologies products to achieve Level 2 Green Factory certification.

Reduction of external emissions from production

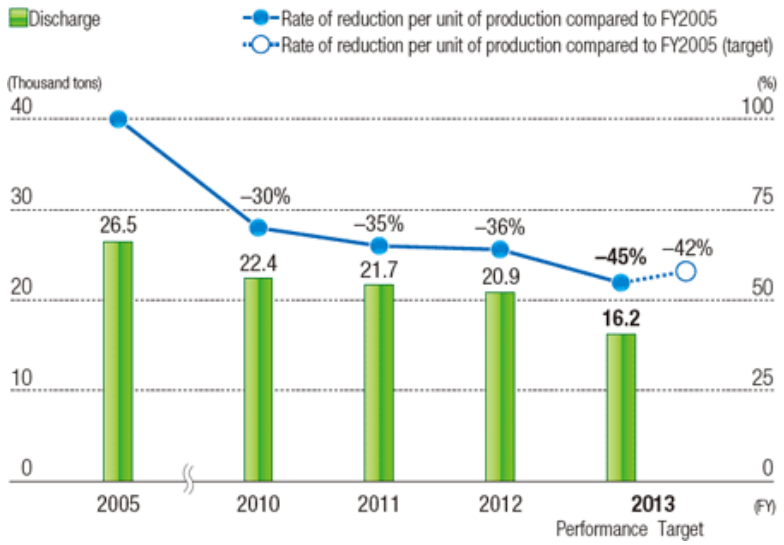
Fiscal 2013 Targets and Results (Waste Discharged Externally from Production Operations)

Konica Minolta carries out zero waste activities through the operation of its Green Factory Certification System.

Reducing Waste Discharged Externally from Production Operations

Konica Minolta is striving to reduce waste discharged externally from production operations, in order to help build a recycling-oriented society.

In fiscal 2013, the Group carried out “Zero Waste” activities such as improving production efficiency, expanding recycling of waste material, and expanding the reuse of packaging materials. As a result of these efforts, together with a closing of a production site in Malaysia, the Group achieved the targets for fiscal 2013. The reductions per unit of production attributable to Green Factory efforts resulted in a total reduction in externally discharged waste of about 10,000 tons compared to the fiscal 2005 baseline.



Waste Discharged Externally from Production Operations

Featured Initiative

Focusing on Reducing Raw Material Use, Including Plastic Mill Ends

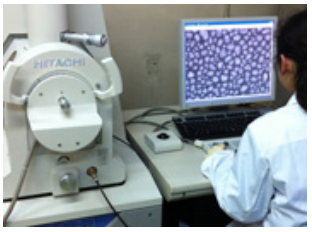
Konica Minolta Business Technologies (Wuxi) Co., Ltd., based in Jiangsu, China, makes an active effort to apply the 3Rs (reduce, reuse, and recycle) to the plastic mill ends generated in the molding process, in order to reduce waste.

In fiscal 2013, it greatly reduced its usage of plastic raw material by developing and installing molding dies that do not generate mill ends. Diverse measures including this one resulted in the achievement of a 60% reduction* in the amount of petroleum-derived resource waste and a 65% reduction* in the amount discarded externally compared to the base year of fiscal 2007.

These efforts helped the company to satisfy the Green Factory criteria of supporting a recycling-oriented society and resulted in achieving Level 2 Green Factory Certification.

* Both on a sales unit basis.

Developing Recycling Technology for the Rare Earth, Cerium Oxide



There are only a few supplier countries of rare earth materials worldwide, leading to concern about risks such as limited supply and rising costs. Also, rare elements must be used efficiently to realize sustainable human societies. Cerium oxide is a rare earth element used as a polishing material for glass. There has been a need to reclaim cerium oxide from waste liquid left after polishing, but the challenge was how to remove the glass particles.

Building on the advanced materials technology gained in the development of films and toners, Konica Minolta has successfully developed recycling technology able to extract high-purity cerium oxide which has the same quality as new material from polishing waste without large-scale equipment investment or high operating costs.

In October 2013, Konica Minolta won an Incentive Award in the Awards for 3R-Oriented Sustainable Technology in recognition of this initiative.

With the support of Japan's Ministry of Economy, Trade and Industry, the Japan Environmental Management Association for Industry gives these awards to advanced businesses and initiatives that contribute to reducing, reusing and recycling, with the objective of encouraging and popularizing their use. The Incentive Awards, one of which Konica Minolta won, are given to businesses or initiatives that have exhibited outstanding originality and growth potential in terms of new business creation.

Award ceremony

Reduction of chemical substances risks in production

Basic Concept

Working at reducing chemical risks based on the concept of the precautionary principle

There is international consensus on the need for companies that manufacture and use chemical substances to take steps to minimize the adverse effects of chemicals, not only on human health, but also on the environment. Based on this shared perception, many countries around the world are currently revising their regulations concerning chemical substances.

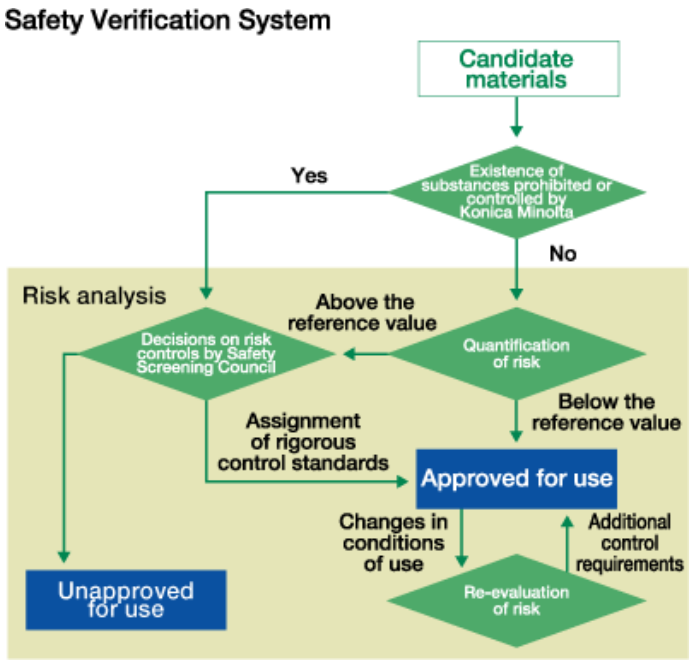
Having taken a position in advance of this new international current, based on a concept known as the "precautionary principle," Konica Minolta has focused on enhancing its advance evaluation of chemical risks, reducing the emission of harmful substances into the atmosphere and eliminating hazardous substances from production processes and products to improve safety management for workers and product users.

Risk Assessment of Chemicals

Using its unique safety verification system to achieve the appropriate management of chemicals

Risk assessment of candidate materials using a safety verification system

Konica Minolta has established a safety verification system that assesses the risk of candidate materials when considering the use of new chemicals in the process of creating products. Using this system, the Group practices appropriate management based on comprehensive chemical risk assessment in terms of product safety, environmental safety, and work safety.



Designation of prohibited and restricted substances

Konica Minolta designates prohibited and restricted chemicals based on its own criteria in order to appraise the inherent danger/hazard of a substance during the risk assessment conducted before adoption of a chemical. These criteria include not only chemicals regulated by law but also chemicals recognized as harmful by specialized institutions.

Calculating risk points for chemicals

Konica Minolta calculates points for the inherent danger/hazard risk of substances based on a unique calculation method used in its safety verification system. This quantifies the danger/hazardousness points based three factors: (1) type and degree of danger/hazardousness, (2) level of safety measures, and (3) amount used. Using these numbers, it is possible to compare different types of risks-such as the danger of an explosion or health effects such as carcinogenicity-on the same scale. In this way, Konica Minolta quantitatively assesses the potential risks of danger/hazardousness in chemicals.

Risk management that envisions substance usage

Moreover, since risks differ depending on the form of exposure, Konica Minolta classifies substances into four categories that envision usage, ranging from use under strict safety controls (e.g. at production sites) to use by the general public, which cannot be expected to take safety measures. It then specifies safety requirements according to the different risks in order to carry out more practical risk management.

When there is a necessity to use highly hazardous chemicals, Konica Minolta holds a safety determination meeting to stipulate rigorous management conditions for minimizing risks in terms of procurement, storage, handling, and disposal.

Risk assessment during continual use

Even after incorporating a chemical into the production process after conducting a risk assessment, Konica Minolta checks periodically to make sure that there are no changes in the amount used or the conditions of use. If there are any changes, it does a reassessment to ensure appropriate management.

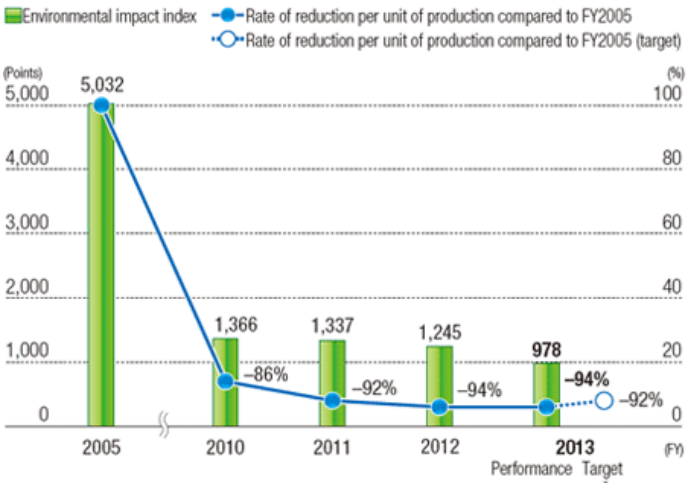
Reducing and Fully Phasing out Chemicals

Reducing VOCs based on Konica Minolta's own risk management indicators

Konica Minolta assesses risk based on a chemical's hazardousness and amount of use and is committed to finding alternatives and reducing those substances judged to have a high risk. Since 1993 it has been making efforts to reduce atmospheric emissions of volatile organic compounds (VOCs) from production sites worldwide. It identified VOCs with particularly high risks for full phase-out and has maintained the full phase-out status for those identified items.

Reducing atmospheric emissions of VOCs

Konica Minolta is systematically reducing VOCs in line with its own environmental impact index that multiplies the impact on the human body and the environment by a location coefficient as a management indicator. By implementing measures in accordance with the Green Factory certification system, it achieved its goals for fiscal 2013.



Reduction of Atmospheric VOC Emissions (Risk-Adjusted)

Standards for Calculating Environmental Data

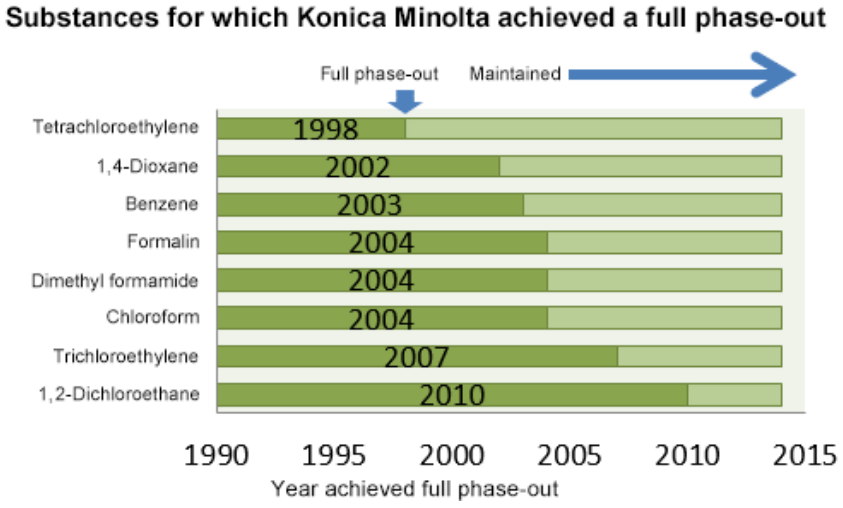
Substances Konica Minolta has earmarked for reduction

	Hazard coefficient	Example of substances
Substances that pose a risk to human health Substances that pose a risk to ecosystems Substances that pose a risk of atmospheric pollution	×100	1, 2-dichloroethane
	×10	dichloromethane, ethyl acrylate, n-heptane
Substances that pose risk of having an indirect adverse impact on the environment	×1	isopropyl alcohol, methanol, ethanol, acetone, ethyl acetate

* Environmental impact index:
Environmental impact index (point) = Atmospheric emissions of VOCs [t] × Hazard coefficient × Location coefficient
Hazard coefficient: Set at 1-fold, 10-fold, or 100-fold depending on the severity of the impact on human health and the environment (set independently by Konica Minolta based on the coefficient used in the safety evaluations conducted by Kanagawa Prefecture in Japan)
Location coefficient: Outside the industrial estate: 5, inside the industrial estate: 1

Substances for which Konica Minolta achieved a full phase-out

Konica Minolta earmarked the VOCs below for full phase-out, having judged them as having an especially high risk based on the hazardousness and amount of use of each substance, and made systematic efforts from early on toward that end. Those efforts resulted in the achievement of a full phase-out in fiscal 2010, which has been maintained ever since.



Countermeasures against Contamination of Soil and Ground Water

Striving to manage the state of contamination through regular monitoring, to facilitate cleanup, and to prevent the spread of contamination

Konica Minolta is conducting robust management through periodic observation at sites where soil or ground water contamination has been identified to ensure that the contaminants do not affect the surrounding environment.

The Group has organized a specialist team to manage remediation of polluted sites and to prevent the spread of contamination. Detailed surveys conducted under the team's supervision serve as the basis for developing countermeasures and examining suitable purification technologies.

The Group reports the results of its observations and remediation efforts periodically to local government agencies and to concerned neighboring residents.

› Summary of Contaminated Soil or Ground Water at Operation Sites

Establishment of guidelines for managing soil contamination risk

Guidelines have been set for risk management of soil contamination as part of Konica Minolta's unique Green Factory Certification System for comprehensive evaluation of the environmental activities of its production sites, as the certification standards for Level 2 require compliance with these guidelines from April 2011.

Guidelines for managing soil contamination risk

• The risk of soil contamination has been assessed through preliminary surveys at production sites known to have a high risk from past surveys.
• If soil contamination (in excess of the standard value) is observed, measures are taken to prevent damage to human health.
• Measures are also taken to prevent run-off of contamination outside the site.

Addressing biodiversity in production

Consideration of Biodiversity at Production Sites

Konica Minolta is carrying out efforts in accordance with the Guidelines for Biodiversity Preservation.

Konica Minolta is working to preserve biodiversity as part of its unique Green Factory Certification System for comprehensive evaluation of the environmental activities of its production sites.

In April 2011, guidelines have been set for consideration of water resources and wastewater, and the proper management of greenery at factories, since the certification standards for Level 2 require compliance with these guidelines.

Guidelines for Biodiversity Preservation

<Consideration of water resources>
• Reduction targets are set for total water consumption, or for water used on site, and reduction measures are implemented
• If groundwater is used, measures must be taken to reduce the amount used

<Consideration of wastewater>
• In order to prevent ecological damage to rivers and lakes, a risk management system must be established to eliminate highly polluted wastewater
• Checks are in place to determine the impact of wastewater emitted into public water areas on ecosystems, such as aquatic habitats

<Proper management of greenery at factories>
• Invasive alien species that are likely to have a negative impact on ecosystems are not planted or sown on the factory's premises
• When planting trees on factory grounds, management and protection must be accorded to any rare species that are discovered

Consideration of water resources

Konica Minolta monitors and manages the volume of water use at each site and strives to reduce its total water consumption in line with the reduction targets it has established.

In fiscal 2013, the Group conducted a comprehensive risk assessment on usage of water resources at production sites and R&D sites throughout the Group. Results of an analysis conducted using the World Resources Institute's (WRI) Aqueduct* showed that the Group has no sites with an extremely high risk. Some production sites in China that were identified as having a comparatively high water risk have now set water use reduction targets and are working toward achieving such targets through measures such as installing water-saving faucet valves, checking for leakage from piping and repairing piping damage.

In the future, the Group will continue to conduct water risk assessments when establishing new sites and changing the business environment, and it will take measures to reduce water use as necessary.

Additionally, production sites that use groundwater as their main intake source have set reduction targets with an indicator of the percentage of groundwater use accounted for in production output (i.e. per unit of production). They are making efforts to reduce the use of groundwater, such as by turning off the supply of cooling water when production is stopped.

* Aqueduct: World maps and information showing the latest water risks published by the WRI. Produced based on 12 key water risk indicators such as physical water stress and regulatory risk related to water resources.

Consideration of wastewater

Konica Minolta regularly conducts compliance assessments on a global basis to confirm the status of compliance with laws, ordinances, agreements, and other relevant regulations related to effluent with the aim of preventing water pollution from effluent.

In fiscal 2011, the Group assessed the effect of effluent on the ecosystem at production sites that release effluent used in the production process into rivers. It adopted WET,* a new effluent management method using bioassays that is gaining worldwide attention, when conducting the assessments. With the cooperation of Japan's National Institute for Environmental Studies, the Group conducted tests using three aquatic species (algae, crustaceans, and fish). The results indicated that there was no negative impact (algae: inhibition of growth; crustaceans: inhibition of breeding; fish: reduced hatching rate or reduced survival rate after hatching) on any of the three test organisms.

* WET: A method that assesses the aggregate toxic effect of wastewater on aquatic life rather than the volume of individual chemical substances. Unlike conventional effluent management methods, it enables holistic assessment of the effect of an effluent, detecting impact caused by any non-regulated chemical substance or the combined impact of multiple substances.

Proper management of greenery at factories

Konica Minolta practices proper management of greenery on the grounds of the Group's production sites. By preparing greenery management lists for each site and conducting periodic checks, it makes sure that there are no invasive species, including sowing seeds.

Additionally, when rare species are discovered at a site, efforts are made to protect the species by making employees and visitors aware of its presence by putting up signs and fences. For instance, the Tokyo Site Hino is managing and protecting Golden Orchid (Cephalanthera falcata) and Lilium speciosum (a Japanese lily), which are endangered species.

Consideration of biodiversity in procurement

Procuring copy paper in consideration of forest resource conservation

Konica Minolta Business Solutions Co., Ltd., an office equipment and solutions sales company in Japan, has established the PPC Paper Purchase Standards, which have been implemented since 2007. The Standards stipulate that copy paper supplied to customers should be procured by taking into account the impact of forest destruction and degradation on the living environments of animals, plants, and people.

Reduction of environmental impact through cooperation with suppliers

Reducing CO_2 Emissions by Cooperating with Suppliers

Konica Minolta facilitated environmental impact reduction through improvement of suppliers' production processes.

About 26% of Konica Minolta's CO_2 emissions across the supply chain are related to the procurement of parts. By working with suppliers to improve production processes, Konica Minolta is making progress in reducing both costs and environmental impact. Improved quality and productivity and reduced cost are the primary objectives of these efforts, but they also translate into reduced environmental impact by saving on materials and energy used.
Under the program, Konica Minolta engineers visit suppliers' plants and propose improvements that help reduce the usage of raw material plastic and shorten lead times. They work side by side with supplier employees to make these improvements. Reduced plastic usage not only saves on material itself, but also means that less CO_2 is emitted during material manufacturing. Shorter lead times reduce energy consumption and translate into reduced CO_2 emissions by improving production efficiency. In fiscal 2013, these initiatives resulted in a total of nearly 1,800 tons of CO_2 reductions for the year.
The Medium-term Environmental Plan 2016 sets CO_2 reduction targets related to procurement in addition to CO_2 reduction targets for Group production sites. The Group continues to expand its cooperation with suppliers with the aim of achieving these targets.

Green Marketing (distribution, sales, service, recovery, and recycling initiatives)

Konica Minolta carries out green marketing activities as its way of practicing environmentally friendly sales and services. By providing products and services that meet customers' environmental needs, such as certified Green Products and Optimized Print Services solutions, Konica Minolta helps customers and the broader society to reduce environmental impact. The Group also strives to assist customers' activities to resolve their environmental issues. It is also working on challenges it set for each region, such as efficiency-improvement measures in distribution, packaging, sales, and service and the establishment of a system to recover and recycle used products.

Initiatives and results in fiscal 2013

In fiscal 2013, Konica Minolta worked on EPEAT and promoted Green Marketing initiatives at leading sales companies worldwide with a view toward providing environmental value to customers. It also implemented supply chain measures in an effort to reduce CO_2 emissions during distribution and the use of packaging materials with a view toward cutting costs and reducing environmental impact in the supply chain.

With regard to EPEAT, 26 products in the imaging devices and products category were registered as “Gold products” in the U.S. (as of March 31, 2014). Konica Minolta has the largest number of EPEAT-rated “Gold products” in the imaging devices and products category.

To promote initiatives of main sales companies, the Group held a Global Environmental Conference attended by each company to share best practices and success stories. More Group companies also started using the environmental knowhow cultivated by Konica Minolta Inc. in an effort to contribute to the resolution of their customers' environmental challenges. Going forward, the Group will continue to enhance its initiatives to support customers' environmental activities.

With respect to distribution, the Group made priority efforts to reduce air transportation by minimizing the occurrence of quality problems, adhering to development schedules, and improving demand forecasting. Additionally, the Group worked at optimization of supply control and other supply chain management measures. These efforts resulted in the reduction of CO_2 emissions from the distribution of approximately 2,600 tons in fiscal 2013 from the previous fiscal year. Of those, the reduction attributable specifically to optimization of supply control and other supply chain management measures was as much as 1,300 tons.

However, the Group did not achieve its per-unit target for fiscal 2013 due to the unexpected need for shipment by air in response to production delays.

The Group achieved its fiscal 2013 target for reducing the use of packaging materials by working at reducing packaging by making an effort to reduce the packaging of after-sales parts such as film developing units and waste toner boxes.

Distribution initiatives

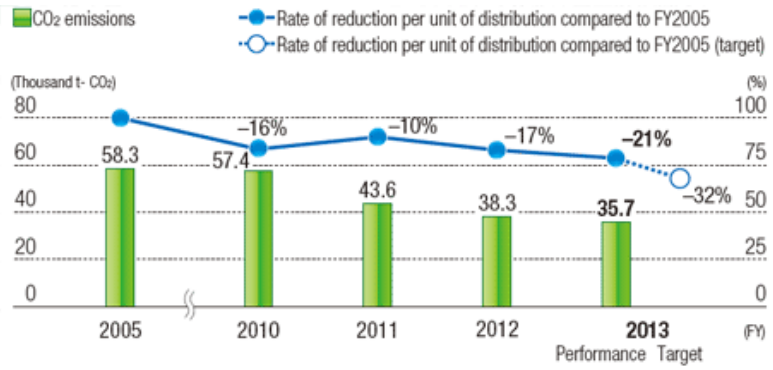
Konica Minolta aims to reduce CO_2 emissions from the distribution activities needed for each process from procurement to production and sales.

Initiatives to Reduce CO_2 Emissions from Distribution

Transporting the same weight of cargo over the same distance, an airplane emits 57 times more CO_2 than a ship (value published in the GHG Protocol).
Konica Minolta usually uses ships to transport IT devices products internationally. However, when a situation occurs where it must use an airplane, its CO_2 emissions increase as a result. That is why the Group is striving to reduce the frequency of airplane use by increasing the accuracy of its demand forecasting and improving its inventory management system.

In fiscal 2013, the Group continued to make focused efforts to reduce air transport by minimizing the occurrence of quality problems, sticking to development schedules, and improving demand forecasting. Additionally, it worked at supply chain management measures such as optimization of supply management.

During the fiscal year, an air shipment unexpectedly became necessary due to a production delay, causing the goal per unit of distribution to be missed. Still, the Group reduced its CO_2 emissions by approximately 2,600 tons from the previous year.



CO_2 Emissions from Distribution

Promoting a Modal Shift

Konica Minolta has been promoting a modal shift for the long-distance transportation of products and parts, switching from aircraft and trucks to ships, railways and other means that emit less CO_2.

Improving Distribution Routes and Systems

Konica Minolta is reducing CO_2 emissions from its distribution processes by proactively restructuring its logistics facilities around the world.

In June 2008, for example, the company consolidated two logistics centers for business information products, one in Germany and the other in the Netherlands, at a new location in Emmerich, Germany, to serve all of Europe. Through such restructurings, the company aims to shorten the overall transport distance in its logistics operations Group-wide, while expanding the scope of direct customer delivery areas.

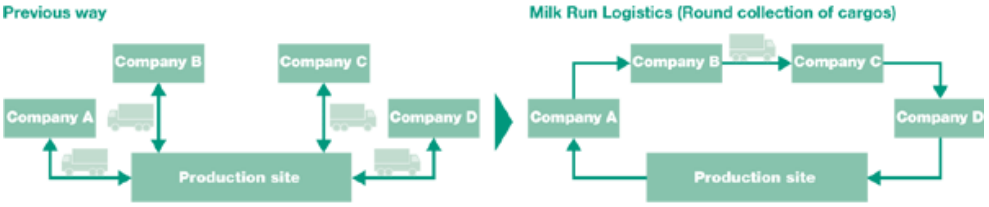
- News release: Konica Minolta Opens a New European Distribution Center for its Office Equipment

Milk Run Logistics (Round collection of cargos)

The term "milk run" originally came from the milk collecting system of dairy producers who visited dairy farms to collect milk in a single vehicle. In the manufacturing industry, it refers to a collection method in which a single vehicle is used to make rounds picking up goods from various suppliers instead of requesting each supplier to deliver goods individually.

Konica Minolta is using milk run logistics in Wuxi City in Jiangsu, China. This helps to reduce CO_2 emissions by shortening the total driving mileage of the trucks.

In addition, the Group is also reducing waste by using re-usable boxes instead of cartons to transport the parts.

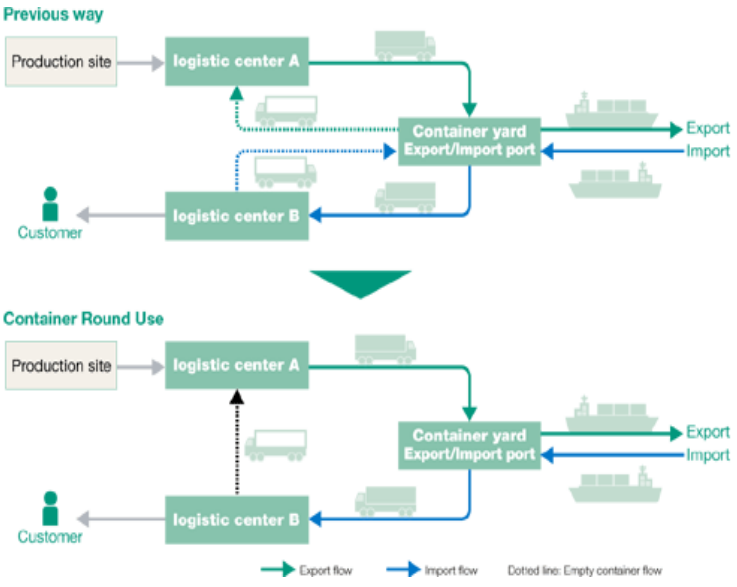


Container Round Use

Container Round Use is a concept in which the devanned container is used for export without returning it to the shipping company. By omitting the process of returning the devanned empty container and getting the new empty container for vanning, the concept contributes to both reducing CO_2 emissions and saving transportation cost.

Konica Minolta is implementing the Container Round Use system in the most effective manner by managing and controlling the shipping schedule with shipping companies and handling the containers that belong to the same shipping companies with minimum loss.

Further, the company is contributing to the reduction of CO_2 emissions by arranging a joint delivery combining finished products and parts, and sub-assembled units from overseas' manufacturing sites, that were previously transported individually.



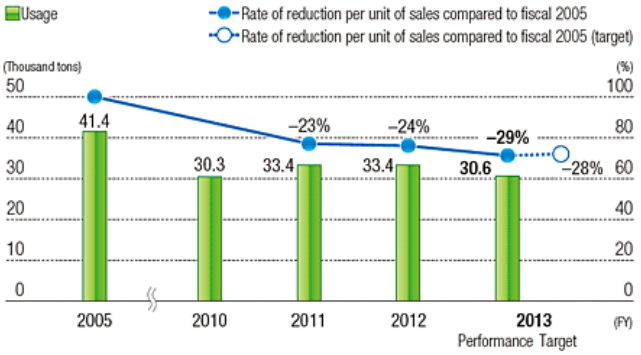
Reduction of use of packaging materials

Reduce Packaging Materials Usage

Redesigning packaging and making packing boxes returnable

Konica Minolta is focusing on its office equipment, which accounts for more than 90% of its usage of packaging materials, in its efforts to reduce that usage. It has reduced mass by improving the shape of packaging and made other efforts such as reusing toner cases that are used to send toner between production sites and making packing boxes for service parts at sales companies returnable.

In fiscal 2013, the Group pursued reductions in packaging especially for after-purchase service parts such as image development units and used toner cartridges, which resulted in an approximate 2,800-ton reduction from the previous year, achieving the reduction target per unit of sales.

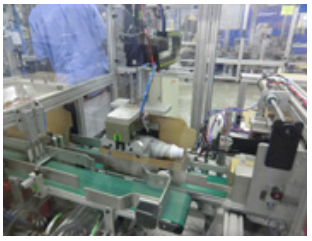


Use of Packaging Materials

Activities at Sales Companies

Rolling Out Packaging Material Reductions for Toner Bottles Worldwide

Konica Minolta has achieved cost reductions and environmental impact reduction by improving how it packages bottles of toner for MFPs. A device designed at the Mizuho site in Aichi Prefecture has made it possible to automate the work of packing boxes, which used to be done by hand. This device is now used around the world, including at a toner filling plant in France since 2011 and at a toner filling plant in the US since 2012. The Group also reconsidered the size of packaging and the method of packing at the time of shipment, which enabled it to achieve a reduction of about 28% in the annual usage of packaging materials. Going forward, the Group will adopt these latter measures at toner plants in Japan and aim to roll them out worldwide.



Automated toner bottle packaging

Recycling Center for Used Packaging Materials

In fiscal 2007, Konica Minolta Business Solutions (UK) Ltd. created a recycling center called “Greenhub” at its main warehouse in an effort to zero out used packaging material from MFPs sent to landfill.

At the center, the company sorts the packaging materials into cardboard, foamed polystyrene, and film, then crushes and compacts the materials, and finally sells them to a local recycling operator. Recycling is made easy by disposing of the materials in this way, and the effort will also reduce the environmental impact that accompanies waste transportation.

Foamed polystyrene crusher

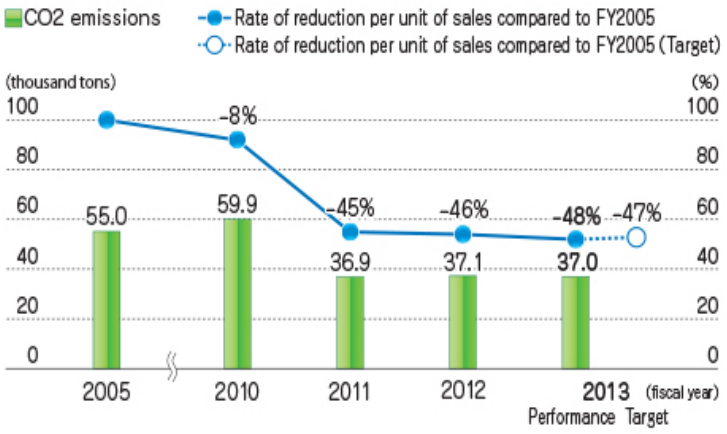
Sales and service initiatives

Initiatives to Reduce CO_2 Emissions in Sales and Services

Promoting the management and reduction of CO_2 emissions from business vehicles

Konica Minolta promotes the management and reduction of CO_2 emissions from the business vehicles operated by its sales companies around the world. The Group is promoting measures such as reducing the amount of travel through more efficient sales and service activities, introducing eco-friendly vehicles with low emissions of CO_2, and eco-driving to reduce energy consumption.

The continuation of these efforts in fiscal 2013 resulted in the reduction of CO_2 emissions by approximately 100 tons compared to the previous year and the achievement of the Group's target in terms of emissions per unit of sales.



CO_2 Emissions from Sales and Service

Standards for Calculating Environmental Data

Rolling out Business-based Environmentally Friendly Activities

Konica Minolta Business Solutions (HK) Ltd., a sales company in Hong Kong, has developed business-based environmentally friendly activities. The company sells MFPs certified with the Hong Kong Green Label for incorporating numerous environmental technologies such as a new synthesis method for toner with low environmental impact. The company also reduces the disposal of electrical equipment by collecting and recycling used MFPs. Additionally, it encourages energy savings and the conservation of paper resources through the provision of Optimized Print Services (OPS) to customers in an effort to resolve social challenges. Furthermore, with respect to environmental education, the company has been helping to build awareness of energy conservation by holding an annual Konica Minolta Concert since fiscal 2010 and engaging in environmental protection education for students together with a local NGO.

For the second straight year, the company won a Green Management Bronze Award (Corporate) in the Hong Kong Green Awards organized by the Hong Kong Green Council in recognition of these activities.

Promoting Eco-Driving and an Energy-Saving Work Style

Konica Minolta Business Solutions Japan Co., Ltd., a sales company in Japan, has installed a vehicle operation management system in all company-owned vehicles. This system constantly gathers and stores data about the way company-owned cars are being used, such as the rate of sudden acceleration and deceleration, driving time, fuel consumption, and so on. Using the data, drivers of company vehicles are encouraged to implement eco-driving more rigorously to improve mileage and reduce the environmental impact of vehicle use by, for example, cutting down on idling.

Additionally, a system to graph and deliver real-time data on electricity use was installed in the head office building in February 2013 to promote an energy-saving work style. The system measures power consumption on each floor, and displays it graphically on the company intranet, and sends out emails if a designated power amount is exceeded, helping employees to stay focused on saving energy. Also, the main reception area now features an electronic sign displaying power usage in real time, where it is visible to visitors and facility users alike.

Adoption of Renewable Energy

Sales companies in Belgium and the U.S. have adopted renewable energy. Konica Minolta Business Solutions (Belgium) N.V./S.A. has been generating electricity with a photovoltaic installation on the roof of its building since 2010. It uses this renewable energy to power its offices and showrooms. Meanwhile, Konica Minolta Business Solutions, U.S.A., Inc. built a photovoltaic installation in the parking lot of its head office in 2013 to generate electricity to power its offices. The combined electricity generated using renewable energy in fiscal 2013 for these two companies was 401 MWh.

Konica Minolta is committed to environmental management based on the concept of Creating Shared Value (CSV), which aims for business growth and the resolution of social challenges. The Group sees renewable energy as one means of achieving both CO2 reductions and business growth. It plans to increase its annual generation of electricity using renewable energy to 1,000 MWh by fiscal 2016 (approximately 2.5 times the fiscal 2013 level).

Photovoltaic installation on the roof of the company building (Belgium)

Photovoltaic installation in the company parking lot (U.S.)

Efforts with customers to reduce environmental impact

Helping Customers Reduce Their Environmental Impact

Providing Environmental Knowhow to Promote Customers' Environmental Management

In addition to efforts to reduce environmental impact associated with its own business operations, Konica Minolta has started initiatives to help customers reduce their environmental impact.

The objectives of these initiatives are to balance the resolution of environmental challenges with increasing customers' competitiveness and profits and to pursue sustainable growth by helping customers' reduce their environmental impact and cut costs. Konica Minolta does this by providing the environmental knowhow it has cultivated over many years of working on its Three Green Activities—Green Products, Green Factories, and Green Marketing—and offering solutions to reduce environmental impact in the office through environmentally friendly products.

The Group intends to carry out these activities close to customers around the world on a global scale. It is also furthering collaboration with partner companies, in order to meet customers' wide-ranging environmental requests.

Through these efforts, Konica Minolta will create shared value with customers and pursue sustainable growth together with them.

Product recycling

Initiatives for Recycling Office Equipment

With the aim of establishing a system for recycling used products and enhancing the recycling rate worldwide, Konica Minolta has implemented its product recycling efforts focusing on its office equipment and consumable supplies.

In fiscal 2013, it is continuing to market re-manufactured MFPs worldwide and is also expanding the reuse of parts and recycling of materials.

Machines collected in Japan in fiscal 2013
- Estimated collection rate: 66%
- Recycling rate: 98% (by weight)

Promoting Reuse and Recycling of Parts

Konica Minolta collects used MFPs within Japan through its nationwide sales companies and JBMIA* replacement centers. Disassembly and sorting of the MFPs collected is outsourced to contractors in seven locations nationwide.

These contractors carry out disassembly by hand instead of using mechanical processing, achieving a high recycling rate.

The dismantled parts are sorted into metal, plastic, and others. Reusable parts are cleaned, inspected and reused. Other parts are sent to be recycled by companies that can process them as feedstock for recyclable materials or fuel.

* JBMIA: Japan Business Machine and Information System Industries Association


OMT Co., Ltd.


Toyohashi Precision Products Co., Ltd

Recovery and Recycling of Office Equipment

Recovery and Recycling Printer Cartridges

Konica Minolta has established a system for free-of-charge recovery and recycling of used toner cartridges for laser printers in 18 European countries, the U.S. and Japan. In North America and Europe, this system is called the Clean Planet Program.

In the U.S., this free-of-charge recovery system has been expanded to include used toner bottles for MFPs.

Clean Planet Program website (Europe)

To the Clean Planet Program in the U.S.

To the Clean Planet Program in Europe

Recovery and Recycling of Used MFPs and Laser Printers

To facilitate the recovery and recycling of used products, Konica Minolta has established systems in each area that are suited to the regulations and markets of respective countries around the world.

In Japan, the company has received approval from the Ministry of the Environment to recover MFPs, copiers, and printers sold in Japan based on a special system for wide-area treatment of industrial waste.

Konica Minolta operates a fee-based recovery program for collecting and recycling used laser printers and copiers from corporate clients. At this time, the program does not handle used equipment disposed of by individual customers, as such equipment is classified as general waste. Outside Japan, Konica Minolta is undertaking recycling programs tailored for specific countries and their markets. In Europe, the company has adopted measures in conformity with the EU directive on the disposal of waste electrical and electronic equipment (WEEE).

Carbon offsetting

What is Carbon Offsetting?

Global warming is a huge environmental challenge that requires a worldwide response. Konica Minolta has set out a long-term environmental vision (the Eco Vision 2050), engages in group-wide initiatives to tackle environmental problems, and makes active efforts to reduce emissions of greenhouse gases, including carbon dioxide (CO_2). In order to drive further progress, the Group is also carrying out carbon offsetting initiatives.

Carbon offsetting is a method of combating global warming through emission reductions and/or sequestration made in another location to offset or compensate for all or a part of the CO_2 and other greenhouse gases emitted from a company's business operations that simply cannot be reduced. Products, services, and events that make use of the carbon offsetting scheme are increasing year by year. It is gaining attention as a means for citizens, companies, local governments, and others to proactively contribute to the fight against global warming.

Carbon Offsets from Disaster-affected Regions

Konica Minolta is implementing a carbon offsetting initiative using Offset Credits (J-VER)* from Japan's Ministry of the Environment as part of its support for areas afflicted by the Great East Japan Earthquake. The Group aims to promote both support for the afflicted areas and the fight against global warming by procuring emissions credits created through J-VER projects in the regions that were worst affected by the Great East Japan Earthquake (i.e., the three prefectures of Iwate, Miyagi, and Fukushima). The credits were applied to the two planetariums run directly by Konica Minolta: the Konica Minolta Planetarium “Manten” in Sunshine City and the Konica Minolta Planetarium “Tenku” in TOKYO SKYTREE TOWN®.

* Offset Credits (J-VER): Credits created through voluntary greenhouse gas emission reduction and/or sequestration projects in Japan. The credits are certified after being validated/verified by a third party based on the Ministry of the Environment's Offset Credit Scheme (J-VER).

Konica Minolta's Carbon Offset Record

	Facility	Emission Credits	Carbon Offset Period	Source of Offset Greenhouse Gas Emission	Amount of Carbon Offset
	Konica Minolta Planetarium “Manten” in Sunshine City	J-VER (Tree thinning project in Sumita Town, Iwate Prefecture) CER (Coal mine methane recovery and effective use of energy project in Liaoning Province, China)	March 1, 2014 -	(1) Planetarium screening facility, all electricity usage connected to the screening venue (2) CO_2 emissions connected to the transport of visitors to the planetariums to enjoy the shows*	Annually: 1,117 tons-CO_2
	Konica Minolta Planetarium “Tenku” in TOKYO SKYTREE TOWN®				

* One-way transport by train from within the greater Kanto metropolitan area (Saitama City, Chiba City, the special wards of Tokyo, Yokohama City, and Kawasaki City)

What is a Carbon Offset Certification Label from the Ministry of the Environment?

Carbon offset programs that are recognized by the Carbon Offset Scheme as being conducted appropriately based on the Ministry of the Environment's carbon offset certification standards can use this label.

This label demonstrates that an offset program has maintained a certain level of reliability. (Certification number acquired by Konica Minolta: CO_2-0072)

See the Ministry of the Environment's website for detailed information about the Carbon Offset Scheme.

To the Ministry of the Environment's Carbon Offset Scheme

http://www.jcs.go.jp/e/

Environmental Communication

Basic Concept

The entire Konica Minolta Group is working to carry out environmental conservation activities and to reduce the environmental impact associated with its business activities. The Group actively provides information on the planning and progress of these efforts. By developing close communication with various stakeholders, Konica Minolta intends to fulfill its responsibilities as a good corporate citizen.
The Group distributes information through various methods, including its website and CSR reports, based on the principle of transparent and ongoing information disclosure. In order to inform customers of the environmental performance of its products, Konica Minolta seeks to provide this information through environmental labels. It is actively pursuing various social contribution activities while creating regular opportunities for direct dialogue with community members.

Information Disclosure

- Issuing Environmental Reports
  - Issuing Site Reports

Communication with Society

- Participating in Shows and Exhibits
- Environmental and Social Contribution Activities

Communication with Society

Participating in Shows and Exhibits

Presentation of environmental technologies and products at exhibitions and facilities

Japan's largest environmental exhibition, Eco-Products, is held annually at Tokyo Big Sight, and Konica Minolta has participated in this exhibition every year since 1999.At Eco-Products 2013, held in December 2013, the Group introduced our wide range of environmental initiatives, including our long-term environmental vision “Eco Vision 2050”, which aims to contribute to a sustainable earth and society.
In addition, the Group maintains a permanent booth at the Osaka ATC Green Eco Plaza (Suminoe-ku, Osaka), which seeks to stimulate environmental businesses by exhibiting environmental technologies and products at the exhibition. Through such activities, Konica Minolta provides straightforward information about its environmental efforts and the energy-saving technologies used in its MFPs.

The Konica Minolta booth at Eco-Products 2013

A permanent booth at Osaka ATC Green Eco Plaza

Environmental and Social Contribution Activities

To earn the loyalty and trust of the local communities in which it operates, Konica Minolta is striving to fulfill its responsibility as a corporate citizen by engaging in a variety of activities that contribute to the creation of a better society.

› Protecting the Natural Environment

Protecting the Natural Environment

Organizing a “Green Concert” — Hong Kong

Konica Minolta Business Solutions (HK) Ltd., a sales company for office equipment and solutions, has been holding its Konica Minolta Green Concert every year since 2010. It is an event that features environmental topics, sports, music, and charity and draws public attention to energy issues and environmentally friendly lifestyle choices. It also holds a competition to generate power by pedaling stationary bicycles in order to help cover the power needed for the concert. Funds raised during the competition are donated to a charity. In the 2013 event, the company took on the challenge of achieving a record high for participation in the 12-hour stationary bicycle cycling relay on October 25, the first day of the event. With members of the general public, not just Konica Minolta employees, signing up to join in, the number of participants reached 379 people.

Supporting the Forest Conservation Activities — Japan

Konica Minolta is a participant and a partner in a variety of forest protection initiatives. One of these is the Takao Forest Society. Focusing on the natural vegetation in the national forest located in Uratakao, in the western part of Tokyo Metropolis, the Society aims, by thinning the trees, planting more, clearing undergrowth and so on, to re-create a lush forest where coniferous trees mingle with broad-leaved varieties. Konica Minolta is a corporate member of the Society, and the employees take part in its activities, working up a sweat for the cause of fostering better forests. In addition, the quarterly newsletter of the Society is printed using Konica Minolta's digital printing system.

Supporting Charity for Protecting the Japanese Red-Crowned Crane — Japan

Not long ago, the number of red-crowned cranes* indigenous to Japan plummeted due to the deterioration of their native habitat. The bird was, for a time, on the verge of extinction. However, thanks to the establishment of the Tsurui Ito Red-Crowned Crane Sanctuary in 1987 by the Wild Bird Society of Japan, and to the protection activities undertaken by local residents and concerned organizations, the number of cranes has increased to more than 1,000. Konica Minolta has been a supporter of the crane-protection activities since the establishment of the sanctuary. As part of this effort, Konica Minolta co-sponsors the Konica Minolta Japanese Red-Crowned Crane Charity.

* The red-crowned crane is a large bird with a white body and a patch of red on the crown of its head. Its habitat extends from eastern Eurasia to Hokkaido in Japan.

Community Beautification Activities

The Konica Minolta Group organizes clean-up and beautification activities in the neighborhoods around its business sites.

Sakai site (Japan)

Tokai area (Japan)

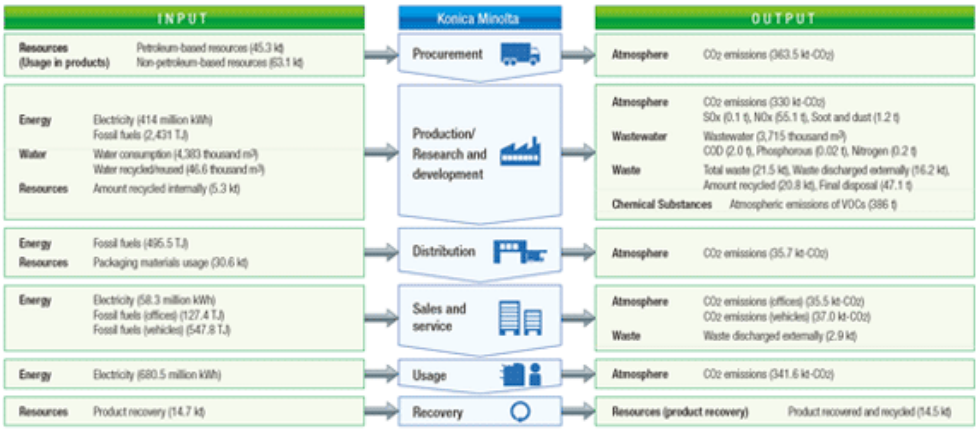
Konica Minolta Business Technologies (Wuxi) Co., Ltd. (China)

Environmental Data

Konica Minolta measures the amount of energy and resources used in all its business activities, as well as the amount of greenhouse gases emitted and the amount of waste produced at each stage of a product's life cycle. These results are analyzed and used to facilitate concrete approaches to improvement.

Overall Picture of Environmental Impact

Click image to enlarge



Environmental performance data

INPUT

- Energy and Water

OUTPUT

- Atmosphere
- Wastewater
- Waste
- Chemical Substances

Environmental Performance Data of Each Site

Soil and Ground Water

Standards for Calculating Environmental Data

The items for which targets have been set in the medium-term environmental plan and the standards for calculating the quantity of water intake are given below.

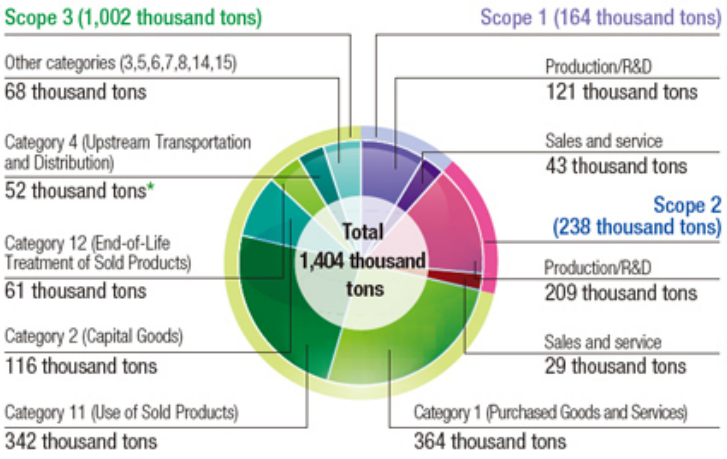
Standards for Calculating Environmental Data (PDF:42KB)

CO_2 Emissions Across the Entire Supply Chain

Konica Minolta has calculated the entire CO_2 emissions associated with the Group's activities across its entire supply chain, from upstream to downstream operations, based generally on the standards of the GHG Protocol,* the international standard. The calculation showed that CO_2 emissions throughout the supply chain were approximately 1.404 million tons.

* The Greenhouse Gas Protocol: Guidelines for calculating and reporting emissions of greenhouse gas (GHG), created by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) with the participation of businesses, NGOs, and government agencies around the world.

Note: The method for calculating CO_2 emissions associated with product use differs slightly from the GHG Protocol.



* CO_2 emissions attributed to product distribution: 36 thousand tons
Note: Figures do not necessarily match total because of rounding.

- CO_2 Emissions Across the Entire Supply Chain in Fiscal 2013

Environmental Accounting

- Environmental Accounting in Fiscal 2013

CO_2 Emissions Across the Entire Supply Chain in Fiscal 2013

Calculation Result for Each Category

Scope 1,2,3 (Category)		Overview	CO_2emissions (t)	Percentage of total (%)	
Scope 1		Production / R&D	120,629	8.6%	11.7%
		Sales and service	43,391	3.1%	
Scope 2		Production / R&D	209,149	14.9%	17.0%
		Sales and service	29,130	2.1%	
Scope 3	1	Purchased goods and services	363,517	25.9%	71.3%
	2	Capital goods	115,615	8.2%	
	3	Fuel- and energy-related activities	7,972	0.6%	
	4	Upstream transportation and distribution	51,739	3.7%	
	5	Waste generated in operations	15,770	1.1%	
	6	Business travel	24,619	1.8%	
	7	Employee commuting	14,802	1.1%	
	8	Upstream leased assets	431	0.0%	
	9	Downstream transportation and distribution	-	-	
	10	Processing of products sold	-	-	
	11	Use of products sold	341,596	24.3%	
	12	End-of-life treatment of products sold	61,336	4.4%	
	13	Downstream leased assets	-	-	
	14	Franchises	1,034	0.1%	
	15	Investments	3,181	0.2%	
Total			1,403,911	100.0%	100.0%

Note: Totals may not add up, since figures have been rounded.

Method of Calculation in Each Category of Scope 3 Emissions

Category	Overview	Method of Calculation
1	Purchased goods and services	Calculated by multiplying the sales amount or production amount of office equipment and consumables by a cradle-to-gate CO_2 emission factor for each of the materials that make up a product; and for other products, multiplying the amount of material used by a cradle-to-gate CO_2 emission factor for that material.
2	Capital goods	Calculated by multiplying the amount of investment in capital goods purchased over the year by a CO_2 emission factor per investment value.
3	Fuel- and energy-related activities	Calculated for emissions from the extraction, production, and transportation of fuels purchased by the Group or by electricity producers for the electricity purchased by the Group. (Fuel) Calculated by multiplying the annual purchased volume by a cradle-to-gate CO_2 emission factor for each type of fuel. (Fuels purchased and used by electricity producers) Calculated by multiplying the annual purchased volume of electricity by source, by a CO_2 emission factor for each source. Proportion of sources in electricity generation for each country is identified from the Proportions of Generated Power by Source in Major Countries, published by the Federation of Electric Power Companies of Japan.
4	Upstream transportation and distribution	Emissions in this category are the sum of: A) emissions related to transportation of parts and raw materials the Group purchases, and B) emissions related to transportation of the Group's products. A) Calculated for emissions related to procurement distribution from suppliers to Konica Minolta's plants. Calculated by multiplying transport distance by cargo weight, and then multiplying that value by the CO_2 emission factor for each means of transportation. B) Calculated for emissions related to shipping and distribution internationally, within Japan, and within China. Calculated by multiplying transport distance by cargo weight, and then multiplying that value by the CO_2 emission factor for each means of transportation.
5	Waste generated in operations	Calculated for waste (not including valuables) from production, R&D, and sales offices. Calculated by classifying waste into different types and multiplying the amount of each type of waste entrusted to a party outside the company by a CO_2 emission factor for each method of waste disposal.
6	Business travel	For business travel by employees of Group companies in Japan, the emissions are calculated by multiplying the annual business travel expenditure by a CO_2 emission factor per expense for travel for each means of transportation. The CO_2 emission factor used is that for travel by domestic air flight in Japan, which is the highest among the emission factors for all methods of travel. For Group companies outside Japan, it is estimated by multiplying the number of

		employees of each company by the emission amount per employee calculated based on the result in Japan.
7	Employee commuting	Calculated by multiplying the annual commutation cost by a CO_2 emission factor per expense. The CO_2 emission factor used is for “automobiles (buses and ride-sharing in sales vehicles),” which is the highest among the emission factors for all commuting methods. For Group companies outside Japan, it is estimated by multiplying the number of employees of each company by the emission amount per employee calculated based on the result in Japan.
8	Upstream leased assets	Most leased assets are calculated as Scope 1 and 2 emissions. Scope 3 applies only to some leased assets (e.g., data centers). Calculated by multiplying the actual annual power consumption for the leased servers by a CO_2 emission factor for electrical power.
9	Downstream transportation and distribution	Konica Minolta has sales bases in 41 countries and runs its business mainly through direct sales. Emissions from the sales activities of some dealers fall under this category, but the amount of those emissions is thought to be minuscule. Moreover, since most dealers handle products from multiple manufacturers, it would be extremely difficult to identify and calculate emissions related to the sale of Konica Minolta's products. Accordingly, the Group has decided to exclude this category from the scope of calculations for the present.
10	Processing of products sold	Konica Minolta's product lineup includes semi-finished products, which accounted for approximately 18% of sales in fiscal 2012. However, it is difficult to rationally calculate emissions related to the processing of these products. Accordingly, the Group has decided to exclude this category from the scope of calculations for the present.
11	Use of products sold	Calculated by multiplying the number of units operating in the market (inferred from sales units each year and the life of the product) by the estimated annual amount of electrical consumption* for each model and the CO_2 coefficient equal to the fiscal 2005 world average value specified by the GHG Protocol. The calculation method used by Konica Minolta is slightly different from the GHG Protocol method, but it enables the Group to calculate the emissions that more accurately reflect the Group's business operations and thus allows it to implement initiatives to reduce CO_2 emissions smoothly.
12	End-of-life treatment of products sold	Calculated for emissions related to the end-of-life treatment of products themselves and their containers and packaging. Calculated by multiplying the weight of materials that make up the products sold by a CO_2 emission factor for each type of disposal method. The calculation is made for anticipated future emissions from the end-of-life treatment of products sold in the previous fiscal year, which will be reported as the data of that fiscal year.
13	Downstream leased assets	Konica Minolta's products are all leased through leasing companies. Konica Minolta does not enter into lease contracts directly with customers. Also, it did not lease large buildings or equipment. For this reason, the company judged that Konica Minolta has no emissions in this category.

14	Franchises	Emissions from Kinko's franchises in Hiroshima and Kyushu are applicable to this category. Calculated based on the proportion of employees, based on energy usage in fiscal 2013 at the head office of Kinko's Japan Co., Ltd.
15	Investments	Calculated for a portion of emissions from the 27 main companies in its investment portfolio, in which Konica Minolta holds specified investment stocks. Calculated by multiplying the invested companies' fiscal 2012 CO_2 emissions by Konica Minolta's shareholding ratio (%) in those companies (number of shares held by Konica Minolta / number of shares issued).

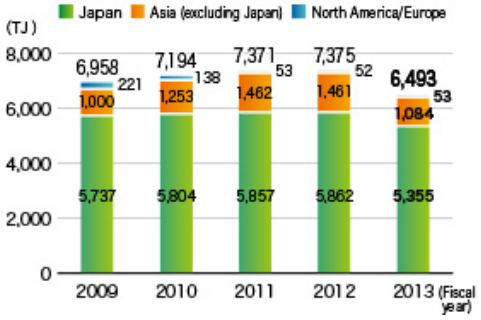
* The annual amount of electrical consumption for office equipment is estimated based on the Typical Electricity Consumption (TEC) value set by the International Energy Star Program, and for equipment for healthcare system it is estimated based on each product's specifications.

Energy and Water

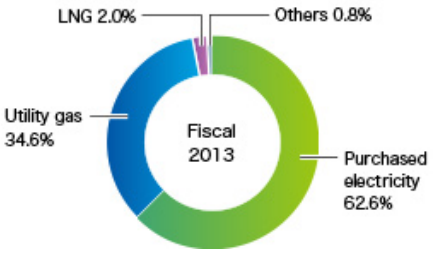
<INPUT>Energy and Water

Click image to enlarge

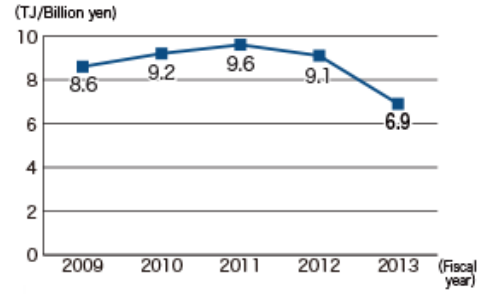
Total Energy Inputs



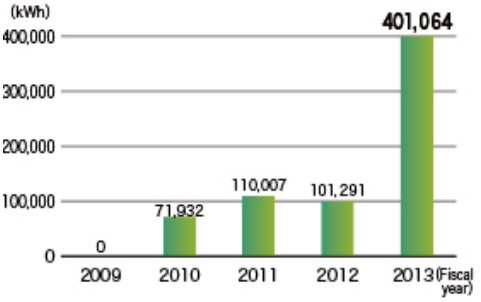
Energy Use by Type



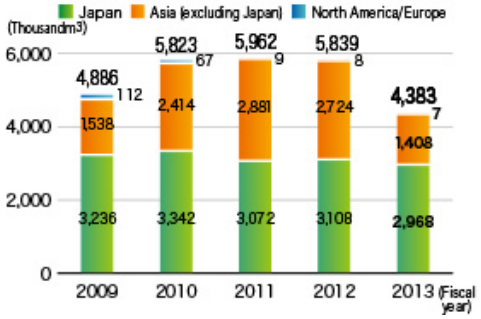
Total Energy Inputs Per Unit of Sales



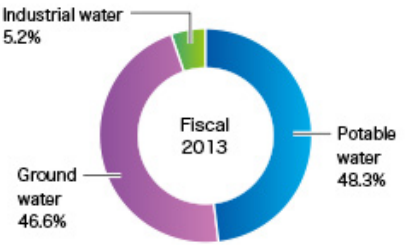
Electricity Generated Using Renewable Energy



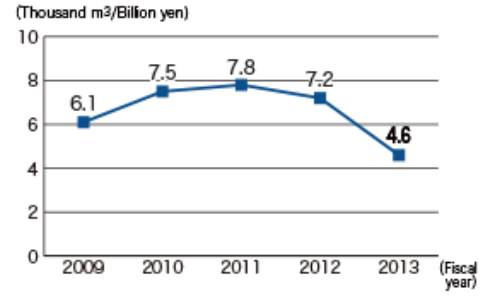
Total Water Inputs



Water Use by Type



Total Water Inputs Per Unit of Sales



* Boundary of data: Electricity generated using renewable energy covers the entire Konica Minolta Group. Other data are for production and R&D sites in the Konica Minolta Group.

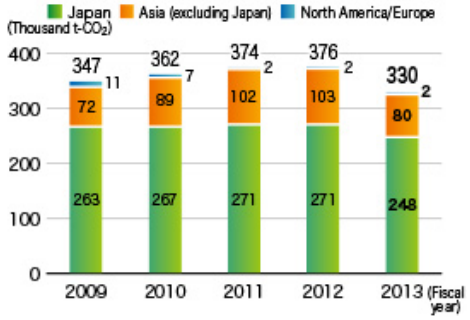
› Standards for Calculating Environmental Data

Atmosphere

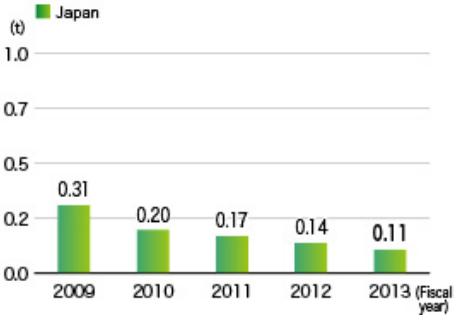
<OUTPUT>Atmosphere (CO2, SOx, NOx, Soot and Dust)

Click image to enlarge

CO2 Emissions

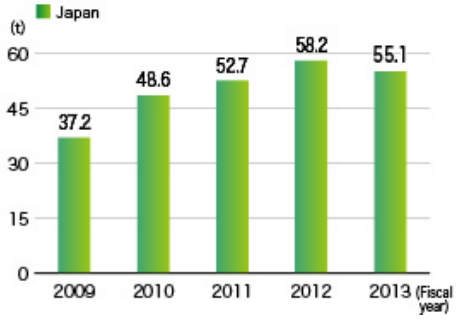


SOx Emissions

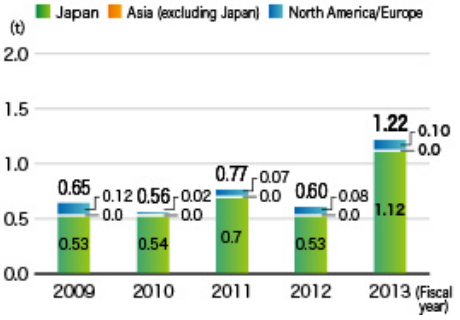


Standards for Calculating Environmental Data

NOx Emissions



Soot and Dust Emissions



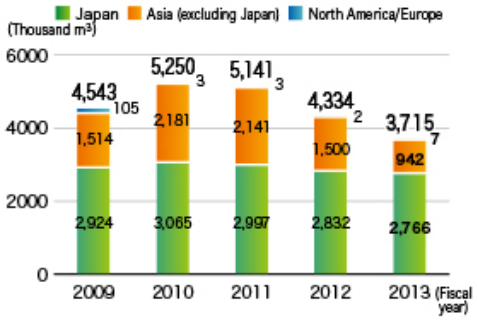
* Boundary of data: Charts cover production and R&D sites in Konica Minolta Group.
* The figures of atmospheric pollutants are total values for factories that are legally required to measure emissions.

Wastewater

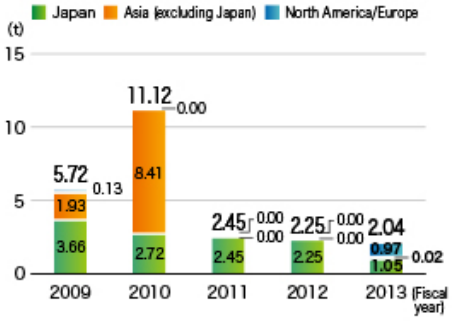
<OUTPUT>Wastewater (Total Wastewater, COD, Phosphorus, Nitrogen)

Click image to enlarge

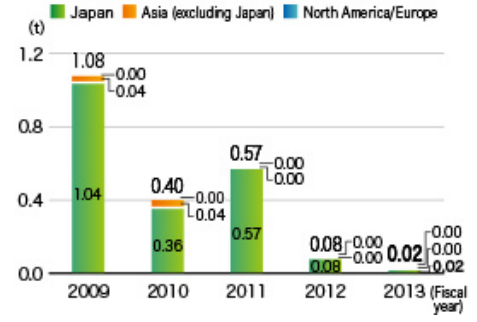
Total Wastewater



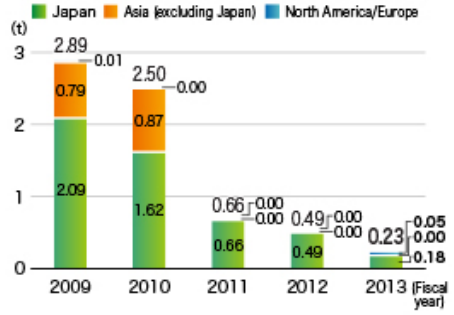
COD into Public Waters



Phosphorus Discharged into Public Waters



Nitrogen Discharged into Public Waters



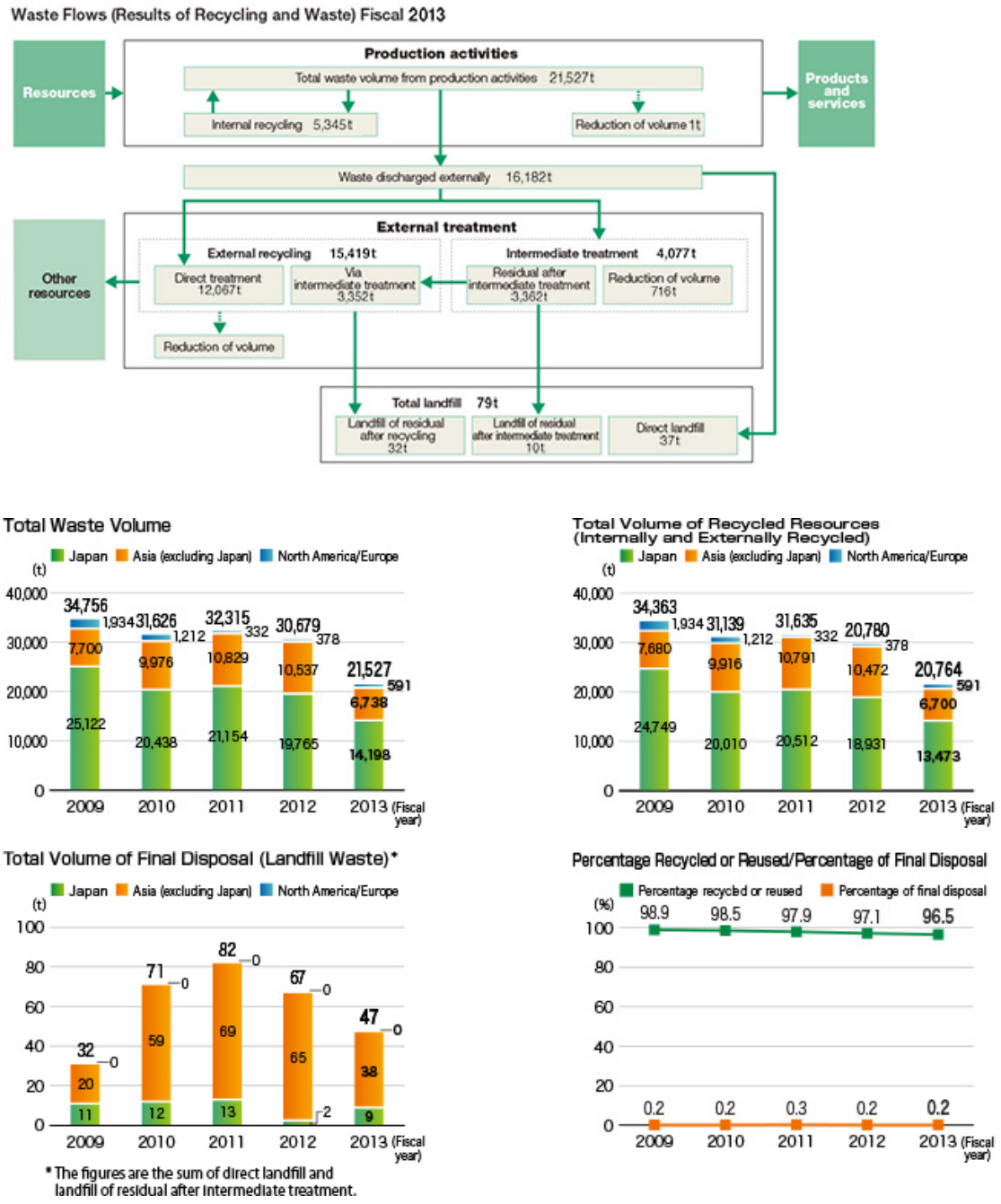
* Boundary of data: Charts cover production and R&D sites in Konica Minolta Group.

* The figures of water pollutants are total values for factories that are legally required to measure waste.

Waste

<OUTPUT>Waste

Click image to enlarge



Standards for Calculating Environmental Data

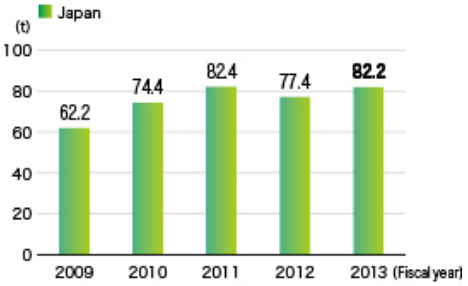
* Boundary of data: Charts cover production and R&D sites in Konica Minolta Group.

Chemical Substances

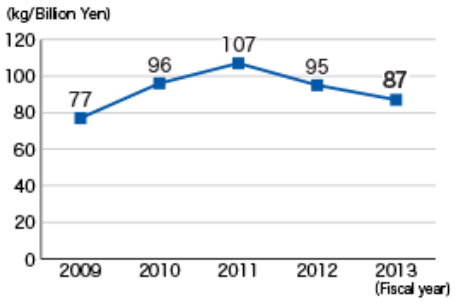
<OUTPUT>Emission of Chemical Substances (PRTR Substances)

Click image to enlarge

Atmospheric Emissions of PRTR Substances



Atmospheric Emissions of PRTR Substances Per Unit of Sales



Unit:t

Substances Controlled by Pollution Release and Transfer Register (PRTR) System Fiscal 2013

Identification Number	Name of Chemical Substance	Amount Handled	Releases			Amount Used (in products)	Treated on-site (Incinerated, Decomposed)	Amount Transferred Externally		Recycled
			To Air	To Water	To Soil			Waste*	Sewage	
4	Acrylic acid and its water-soluble salts	4.1	0.0	0.0	0.0	4.0	0.0	0.1	0.0	0.0
7	n-Butyl acrylate	1,811.6	1.1	0.0	0.0	1,793.9	0.0	16.5	0.0	0.0
13	Acetonitrile	37.9	2.3	0.0	0.0	2.3	4.4	29.0	0.0	0.0
23	p-Aminophenol	4.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
31	Antimony and its compounds (Sb equivalent)	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
71	Ferric chloride	88.5	0.0	0.0	0.0	0.0	88.5	0.0	0.0	0.0
81	Quinoline	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
82	Silver a	56.3	0.0	0.0	0.0	56.2	0.0	0.0	0.0	0.0

	nd its water-soluble compounds (Ag equivalent)									
151	1,3-Dioxolane	18.8	4.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8
181	Dichlorobenzene	2.5	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
186	Dichloromethane (also known as methylene chloride)	985.7	57.4	0.0	0.0	10.8	0.0	594.5	0.0	319.7
232	N, N-Dimethylformamide	32.9	0.0	0.0	0.0	0.0	0.1	32.8	0.0	0.0
240	Styrene	5,069.2	5.0	0.0	0.0	5,036.2	0.0	28.0	0.0	0.0
275	Sodium dodecyl sulfate	2.0	0.0	0.0	0.0	0.0	0.0	0.0	1.972	0.0
277	Triethylamine	1.4	0.0	0.0	0.0	0.6	0.2	1.2	0.0	0.0
300	Toluene	68.0	11.7	0.0	0.0	0.2	0.4	55.3	0.0	0.0
342	Pyridine	2.3	0.0	0.0	0.0	1.8	0.0	2.1	0.0	0.0
353	Diethyl phthalate	1.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
392	n-Hexane	22.2	0.0	0.0	0.0	0.0	0.0	22.1	0.0	0.0
395	Water-soluble salts of peroxodisulfuric acid	158.0	0.0	0.0	0.0	15.8	142.2	0.0	0.0	0.0
412	Manganese and its compounds (Mn equivalent)	252.8	0.0	0.0	0.0	252.9	0.0	0.0	0.0	0.0
415	Methacrylic acid	517.0	0.4	0.0	0.0	511.7	0.0	4.8	0.0	0.0

420	Methyl methacrylate	84.3	0.2	0.0	0.0	83.8	0.0	0.3	0.0	0.0
461	Triphenyl phosphate	3.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0

* In accordance with PRTR system definitions, even if materials were recycled later, they were counted here as waste if they were not sold at a profit.
* Boundary of data: Charts cover Konica Minolta Group production sites in Japan.

Environmental Performance Data of Each Site

Environmental Performance Data of Each Site

Sites of Konica Minolta, Inc. in Japan(FY2013)

Site name / Location	Main Business Contents	CO_2 Emissions (kt-CO_2)	Waste discharged externally (t)	Final Disposal (t)	Total Water Inputs (Thousand m^3)				Wastewater (Thousand m^3)	Atmospheric VOC Emissions (t)	Atmospheric Emissions of PRTR Substances (t)
						Ground Water (Thousand m^3)	Industrial Water (Thousand m^3)	Drinking Water (Thousand m^3)			
Tokyo Site Hino (Hino, Tokyo)	Development and production of office equipment, healthcare products, optical devices, and industrial inkjet	25.3	781	0.0	463.9	463.9	-	-	430.2	*1	0.0
Tokyo Site Hachioji (Hachioji, Tokyo)	Development and production of office equipment, optical devices, and healthcare products	15.9	732	0.0	104.4	89.9	-	14.5	110.9	*1	0.4

Kofu Site (Kofu, Yamanashi Prefecture)	Manufacturing of healthcare equipment products	2.7	161	0.0	46.4	30.0	-	16.4	36.5	*1	0.0
Atsugi Site (Atsugi, Kanagawa Prefecture)	Software development and testing for office equipment products; provision of technical training for sales personnel	0.4	20	0.5	3.9	-	-	3.9	3.9	*1	0.0
Mizuho Site (Toyokawa, Aichi Prefecture)	Development and manufacturing of office equipment-related products	4.8	339	1.0	20.7	-	-	20.7	18.6	*1	0.0
Mikawa Site (Toyokawa, Aichi Prefecture)	Development of office equipment-related products	0.8	94	0.0	9.6	-	-	9.6	8.4	*1	0.0

Toyokawa Site (Toyokawa, Aichi Prefecture)	Production management and manufacturing of office equipment-related products	0.4	20	0.2	5.7	-	-	5.7	5.0	*1	0.0
Osakasayama Site (Osakasayama, Osaka)	Development and manufacturing of optical products	6.6	138	0.0	34.0	-	-	34.0	45.6	2.9	0.0
Sakai Site (Sakai, Osaka)	Development, manufacturing and sales of measuring instruments for industrial applications	1.5	46	0.0	31.7	21.3	-	10.3	31.7	*1	0.0
Itami Site (Itami, Hyogo Prefecture)	Development and manufacturing of optical products; office equipment software development	3.3	111	0.0	21.2	-	-	21.2	15.0	*1	0.0

Takatsuki Site (Takatsuki, Osaka)	Research and development; intellectual property management and operation, industrial design	1.4	32	0.0	15.9	-	-	15.9	11.3	*1	0.0
Kobe Site, Kobe Second Site, Seishin Site (Kobe, Hyogo Prefecture)	Manufacturing of electronic materials (TAC films)	150.7	2,880	0.0	811.4	281.6	-	529.8	600.2	61.9	53.2

Affiliate production sites in Japan(FY2013)

Site name or Company name / Location	Items produced	CO_2 Emissions (kt-CO_2)	Waste discharged externally (t)	Final Disposal (t)	Total Water Inputs (Thousand m^3)				Wastewater (Thousand m^3)	Atmospheric VOC Emissions (t)	Atmospheric Emissions of PRTR Substances (t)
						Ground Water (Thousand m^3)	Industrial Water (Thousand m^3)	Drinking Water (Thousand m^3)			
Konica Minolta Supplies Manufacturing Co., Ltd. (Kofu, Yamanashi Prefecture)	Consumables of MFPs and laser printers	11.8	436	5.2	365.1	347.1	-	18.0	365.1	46.9	18.4

Konica Minolta Supplies Manufacturing Co., Ltd., Tatsuno Site (Tatsuno-machi, Nagano Prefecture)	Consumables of MFPs and laser printers	7.0	1,013	1.9	353.3	353.0	-	0.3	369.3		
Konica Minolta Supplies Manufacturing Kansai Co., Ltd., Miki Site (Miki, Hyogo Prefecture)	Consumables of MFPs and laser printers	1.2	15	0.0	5.0	-	-	5.0	3.6	*1	0.0
Toyohashi Precision Products Co., Ltd. (Toyohashi, Aichi Prefecture)	Consumables of MFPs and laser printers	1.4	192	0.2	43.5	42.4	-	1.1	91.1	*1	0.0
Konica Minolta Electronics Co., Ltd. (Tsuru, Yamanashi Prefecture)	Electronics parts	0.8	71	0.0	6.0	-	-	6.0	6.0	*1	0.0
Konic	Optica	6.4	115	0.0	409.	409.	-	-	409.	*1	0.0

a Minolta Opto Products Co., Ltd., Kofu Site (Kofu, Yamanashi Prefecture)	l devices				2	2			2		
Konica Minolta Opto Products Co., Ltd., Yamanashi Site (Minamitsuru-gun, Yamanashi Prefecture)	Optical devices	0.1	0	0.0	0.2	-	-	0.2	0.2	*1	0.0
Konica Minolta Glass Tech. Co., Ltd., Iruma Site (Iruma, Saitama Prefecture)	Optical devices	1.1	79	0.0	53.2	-	-	53.2	53.2	13.8	0.0
Konica Minolta Technoproducts Co., Ltd., Sayama Site (Sayama, Saitam	Healthecare and graphic imaging equipment	2.0	79	0.0	10.5	-	-	10.5	10.5	*1	0.0

a Prefecture)											
Konica Minolta Chemical Co., Ltd., Shizuoka Site (Fukuroi, Shizuoka Prefecture)	Chemicals	2.5	1,703	0.0	153.1	-	151.0	2.1	140.3	43.8	10.2

Affiliate production sites outside Japan(FY2013)

Site name or Company name / Location	Items produced	CO_2 Emissions (kt-CO_2)	Waste discharged externally (t)	Final Disposal (t)	Total Water Inputs (Thousand m^3)				Wastewater (Thousand m^3)	Atmospheric VOC Emissions (t)
						Ground Water (Thousand m^3)	Industrial Water (Thousand m^3)	Drinking Water (Thousand m^3)		
Konica Minolta Business Technologies (Wuxi) Co., Ltd. (China)	MFPs, laser printers and consumables	11.0	2,017	0.0	74.7	-	74.7	-	63.5	11.0
Konica Minolta Business Technologies (Dongguan) Co., Ltd. (China)	MFPs, laser printers and consumables	15.4	3,265	0.3	149.8	-	-	149.8	149.8	25.5
Konica Minolta Supplies Manufacturing U.S.A., I	Consumables of MFPs and laser printers	1.6	361	0.0	4.6	2.4	-	2.2	4.6	*1

nc. (U.S.A.)										
Konica Minolta Supplies Manufacturing France S.A.S. (France)	Consumables of MFPs and laser printers	0.5	230	0.0	2.2	-	-	2.2	2.2	*1
Konica Minolta Opto (Dalian) Co., Ltd. (China)	Optical devices	29.0	278	3.9	170.2	-	-	170.2	144.7	118.7
Konica Minolta Optical Products (Shanghai) Co., Ltd. (China)	Optical devices	9.3	44	0.0	79.3	-	-	79.3	71.3	*1
Konica Minolta Glass Tech (M) Sdn. Bhd. (Malaysia)	Optical devices	14.9	930	33.9	934.2	-	-	934.2	512.8	70.8

* Sites outside Japan are not controlled by Japan's PRTR System.

* The amount of substances subject to the PRTR Law released to the atmosphere from sites in Japan do not need to be calculated if the quantity handled is no more than 1 ton.

*1 Under the threshold defined in Standarads for Calculation

Standards for Calculating Environmental Data

Standards for Calculating Environmental Data(CO_2 Emissions)

Boundary and Standards for Calculation

Stage		Methods of Calculation
1.Procurement	1) Boundary	Office equipment and consumable supplies, optical products, equipment for healthcare system manufactured and sold by Konica Minolta, Inc.
	2) Standards	Calculated by multiplying the sales amount or production amount of office equipment and consumables by a cradle-to-gate CO_2 emission factor for each of the materials that make up a product; and for other products, multiplying the amount of material used by a cradle-to-gate CO_2 emission factor for that material.
2.Production / R&D	1) Boundary	All production and R&D sites around the world
	2) Standards	CO_2 emissions are calculated by multiplying the amount of energy used at each site by the following Fuel: Coefficients stipulated in Japan's Act on Promotion of Global Warming Countermeasures Electricity in Japan: Fiscal 2005 average value of all electrical power sources, as specified by the Federation of Electric Power Companies of Japan Electricity outside Japan: Fiscal 2005 emissions coefficients applicable to each country, as specified by the GHG Protocol
3.Distribution	1) Boundary	Japanese domestic distribution, Chinese production distribution (from factory to port), and international distribution of office equipment, optical products, equipment for healthcare system
	2) Standards	CO_2 emissions are calculated by multiplying transport distance by cargo weight, and then multiplying that value by the CO_2emissions coefficient of each means of transportation. Chinese production distribution and international distribution: Coefficients specified by the GHG Protocol Japanese domestic distribution: Coefficients stipulated in Japan's CO_2 Emissions Calculation Method for Logistics Operations—Joint Guidelines Ver.3.0
4.Sales and service	1) Boundary	Major sales companies around the world
	2) Standards	Offices: CO_2 emissions are calculated by multiplying the amount of energy used at main sites (including estimated values for some sites) by the following coefficients. Fuel: Coefficients stipulated in Japan's Act on Promotion of Global Warming Countermeasures Electricity in Japan: 2005 average value of all electrical power sources, as specified by the Federation of Electric Power Companies of Japan Electricity outside Japan: 2005 emissions coefficients applicable to each country, as specified by the GHG Protocol Vehicles: CO_2 emissions are calculated by multiplying the amount of vehicle fuel used by the following Fuel: Coefficients stipulated in Japan's Act on Promotion of Global Warming Countermeasures
5.Usage	1) Boundary	Office equipment and equipment for healthcare system * Optical products are excluded since they are used as parts of other companies' products
	2) Standards	CO_2 emissions are calculated by multiplying the number of units operating in the market (inferred from sales units each year and the life of the product) by the estimated annual amount of electrical consumption*1 for each model and the CO_2 coefficient equal to the fiscal 2005 world average value specified by the GHG Protocol.

Notes

*1 The annual amount of electrical consumption for office equipment is estimated based on the Typical Electricity Consumption (TEC) value set by the International Energy Star Program, and for equipment for healthcare system it is estimated based on each product's specifications.

* Figures in graphs may not add up to totals due to rounding.

Soil and Groundwater

Surveys and Measures Taken on Soil and Groundwater Contamination

Efforts regarding soil and groundwater contamination

Konica Minolta is striving to manage the state of contamination through regular monitoring, to facilitate cleanup, and to prevent the spread of contamination.

It conducts robust management through periodic observation at sites where soil or ground water contamination has been identified to ensure that the contaminants do not affect the surrounding environment.

The Group has organized a special team to manage remediation of polluted sites and to prevent the spread of contamination.. Detailed surveys conducted under the team's supervision serve as the basis for developing countermeasures and examining suitable purification technologies.

The Group reports the results of its observations and remediation efforts periodically to local government agencies and to concerned neighboring residents.

Summary of Contaminated Soil or Ground Water at Operation Sites

Operation Site	Substances	Progress in Fiscal 2013
Tokyo Site Hino (Hino, Tokyo)	Fluorine, Boron, Mercury, Benzene	The company makes periodic observations at monitoring wells located at the site boundary. It has been confirmed that specified hazardous substances with a history of use are all below the limit of environmental standard values, and have no impact on the surrounding environment. The company cleaned up the main part of the area where benzene had been found in excess of the standard value by excavation. It is now considering remediation technology for the remaining part. There has been no effect on groundwater.
Tokyo Site Hachioji (Hachioji, Tokyo)	Hexavalent chromium	The company continues with measures for remediation and prevention of dispersion by pumping ground water taken from wells located within the site. Through continued periodic observation of ground water, the company has confirmed that there is no runoff from the site.
Kofu Site (chuo, Yamanashi Prefecture)	Fluorine	The company has been continuing with periodic monitoring of site boundary and has found no fluorine exceeding the standard value in groundwater.
Mikawa Site, Western Zone (Toyokawa, Aichi Prefecture)	TCE*1, Fluorine	The company concluded the water pumping measure with the consent of the government, as the concentration of TCE in groundwater has been below the limit of standard values for two years at all monitoring wells in the western part of the site since implementing excavation and removal of contaminated soil in fiscal 2010. Through continued periodic observation of ground water, the company has confirmed that there is no runoff of fluorine from the site.

Itami Site (Itami, Hyogo Prefecture)	Lead, Arsenic, Cadmium, Fluorine, Boron	Regarding the boron exceeding the standard value in the ground water found in a specific area of the site, the company continues with remediation and prevention of dispersion of the contaminant through pumping, and has confirmed that there is no runoff from the site. Regarding lead, arsenic, cadmium, and fluorine, the company has performed observation of ground water to confirm that there is no runoff of these substances from the site.
Sakai Site (Sakai, Osaka)	TCE, PCE*2, c-DCE*3, Lead, Arsenic, Cadmium	Regarding TCE, PCE, and c-DCE, the company continues with remediation prevention of dispersion by pumping ground water and carries out preventing runoff from the site. Regarding lead, arsenic, and cadmium, the company performed periodic observation of the ground water. It confirmed that the concentrations are below the limit of environmental standard values in all the monitoring wells located at the site boundary, and have no impact on the surrounding environment.
Osaka Sayama Site (Osaka Sayama, Osaka)	TCE, PCE, c-DCE	On-site remediation using the Jet Rinse method in the area around the company's effluent treatment facility, which was implemented in fiscal 2012, has produced a significant improvement in the downstream groundwater contamination.
Site of the former Nankai Optical Co., Ltd. (Kainan, Wakayama Prefecture)	TCE, PCE, c-DCE	The company is continuing with measures to prevent runoff using the bio fence method.
Toyohashi Precision Products Co., Ltd. (Toyohashi, Aichi Prefecture)	TCE, PCE, c-DCE, Hexavalent Chromium	The company confirmed through periodic monitoring that there is no runoff outside the site of the relevant substances. It is continuing with remediation of groundwater through pumping on the site and has kept the levels of the relevant substances in recovered groundwater within the standard values even before treatment.
Konica Minolta Opto Products Co., Ltd. (Fuefuki, Yamanashi Prefecture)	TCE, PCE, c-DCE	The company has implemented remediation of ground water through pumping, permeable reactive barriers, and bio-barriers, and continued periodic observation to confirm that there is no runoff of the relevant substances from the site.
Konica Minolta Supplies Manufacturing Co., Ltd. (Kofu, Yamanashi Prefecture)	TCE, PCE, c-DCE	The company conducted a trial of groundwater remediation through a new method of bioremediation and is validating the results.

*1 TCE: trichloroethylene

*2 PCE: tetrachloroethylene (perchloroethylene)

*3 c-DCE: cis-1,2-dichloroethylene (resolvent of TCE and PCE)

Standards for Calculating Environmental Data (Emissions Other Than CO_2)

Boundary and Standards for Calculation

Item		Methods of Calculation
1. Petroleum-based resource usage in products	1) Boundary	Office equipment and consumable supplies, optical products, equipment for healthcare system *1manufactured and sold by Konica Minolta, Inc.
	2) Standards	Calculated by multiplying the raw material or part weight by content percentage of petroleum-based resources set for each material, based on the product specification
2. Packaging materials usage	1) Boundary	Raw materials and parts used in packaging for office equipment and consumable supplies, optical products and equipment for healthcare system
	2) Standards	Calculated by multiplying the weight of packaging material per single product (based on product specifications, etc.) by the number of units of the product sold, based on sales results
3. Waste discharged Externally from manufacturing	1) Boundary	All production and R&D sites around the world
	2) Standards	The total actual weight of waste discharged externally from production*2
4. Final disposal	1) Boundary	All production and R&D sites around the world
	2) Standards	The total weight of final disposal*3 (Weight of waste discharged externally from production × Percentage of final disposal*4)
5. Atmospheric emissions of VOCs	1) Boundary	Production sites around the world with ten or more environmental impact index*5 points, when points are added for every compound that is rated of one point or more.
	2) Standards	The sum of the environmental impact index for atmospheric emissions of VOCs*6
6. Water consumption	1) Boundary	All production and R&D sites around the world
	2) Standards	The total amount of water intake (city water, ground water, industrial water)

Notes

*1 The boundaries for some figures are slightly different between those shown in the Overall Picture of Environmental Impact and those used in the calculation of the petroleumbased resource usage.

*2 Of the waste (refuse, etc.) generated at production and research and development sites for which Konica Minolta has responsibility as generator of waste, the amount discharged outside the Konica Minolta site. However, some wastes unrelated to production are excluded.

*3 Except for residues after recycling.

*4 Percentage of final disposal are calculated based on the value from industrial waste disposal companies.

*5 Environmental impact index: An index unique to Konica Minolta.

Environmental impact index (point) = Atmospheric emissions of VOCs [t] × Hazard coefficient × Location coefficient

Hazard coefficient: Set at 1-fold, 10-fold, or 100-fold depending on the severity of the impact on human health and the environment (set independently by Konica Minolta based on the coefficient used in the safety evaluations conducted by Kanagawa Prefecture in Japan)

Location coefficient: Outside the industrial estate 5, inside the industrial estate 1

*6 The overall picture of environmental impact does not take into account the hazard coefficient and location coefficient, and the atmospheric emissions are shown as is.

* The petroleum-based resource usage, for which reduction targets are set in the Medium-Term Environmental Plan, is calculated bytaking the total amount of (1) petroleum-based resource usage in products; (2) petroleum-based resource waste in waste discharged externally from manufacturing; and (3) fuel consumption of sales and service vehicles.

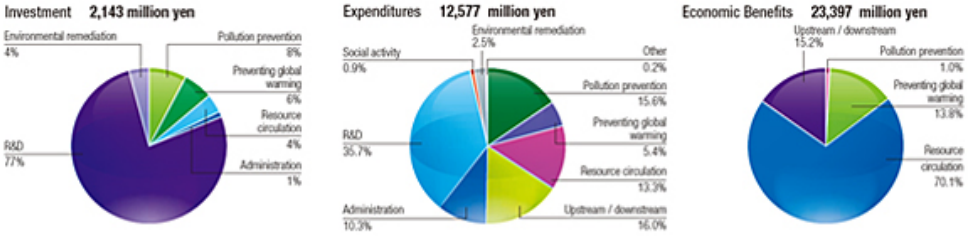
* Figures in graphs may not add up to totals due to rounding.

Environmental Accounting in Fiscal 2013

Konica Minolta has implemented global-scale, consolidated environmental accounting in order to quantitatively assess the costs of environmental conservation in business operations and the benefits obtained from those activities.

Investments in fiscal 2013 totaled about 2.1 billion yen, down 12% year on year. The main investments went into a new R&D building (Tokyo Site Hachioji), which has an atrium that brings in a large amount of natural light and a variety of environmentally friendly equipment such as solar power generation equipment, and the world's first plant (Kofu Site) for mass-producing flexible organic EL lighting panels on resin substrate.

Expenditures totaled about 12.5 billion yen, which is the same as the previous fiscal year.



* Percentages do not necessarily total 100 because of rounding.

Million yen

Results for Fiscal 2013 and Budget for Fiscal 2014

Types of Environmental Conservation Activities	Major Initiatives	Fiscal 2013 Results			Fiscal 2014 Budget	
		Investment	Expenditures	Economic Benefits	Investment	Expenditures
1. Business area cost		372	4,322	19,851	931	4,500
1) Pollution prevention cost	Implemented wastewater treatment facilities maintenance, reduced atmospheric emission of VOCs, and carried out chemicals management	162	1,960	231	503	2,288
2) Preventing global warming cost	Promoted energy conservation	126	685	3,225	233	752
3) Resource circulation cost	Recovered solvents	84	1,678	16,396	196	1,460
2. Upstream / downstream costs	Collected and recycled products	0	2,010	3,546	0	1,977
3. Administration cost	Implemented environmental management systems	28	1,295	0	0	1,341

4. R&D cost	Developed energy-saving products and products containing no hazardous substances	1,653	4,495	0	597	4,511
5. Social activity cost	Implemented environmental conservation activities	0	119	0	0	114
6. Environmental remediation cost	Restored contaminated soil	89	310	0	250	279
7. Other costs		0	26	0	0	12
Total		2,143	12,577	23,397	1,779	12,735

Fiscal 2013 Results: Environmental Conservation Benefits

Stage	Type of benefit	Benefits
Production	Water use reduced *1	27,966 t
	Electricity reduced *1	101,113 MWh
	Natural gas reduced *1	16,864 thousand m^3
	Heavy oil reduced *1	98kL
	Emissions of target chemical substances reduced *1	13 t
	Resource input reduced *1	121,893 t
	External recycling and reuse of waste *2	15,584 t
Sales	Packaging reduced *1	156 t
	Recycling and reuse of materials from used products *2	14,234 t
Usage	CO_2 emissions reduced *3	12,698 t-CO_2

*1 Calculated by subtracting the actual consumption amount from the consumption amount estimated for cases in which the environmental conservation activity was not implemented.

*2 The environmental conservation benefits are calculated as the volume recycled and reused.

*3 CO_2 emissions are calculated for major new products that were shipped in fiscal 2012 by subtracting the estimated CO_2 emissions associated with the new products in use from the estimated CO_2 emissions associated with the conventional products in use.

Fiscal 2013 Results: Impact of End User Usage

Stage	Type of benefit	Benefits
Usage	Electricity consumption reduced *4	25.3 million kWh
	Electricity bills reduced *5	364 million yen

*4 Electricity consumption reduced is calculated for major new products that were shipped in fiscal 2013 by subtracting the estimated energy consumption of the new products in use from the estimated energy consumption of the conventional products in use.

*5 Calculated by multiplying the average electrical power unit price over the Group's production sites in Japan by the amount of electricity consumption reduced.

Boundary for Fiscal 2013 Results

Konica Minolta, Inc.

16 Japanese affiliates

- Konica Minolta Planetarium Co., Ltd.
- Konica Minolta Information System Co., Ltd.
- Konica Minolta Supplies Manufacturing Co., Ltd.
- Konica Minolta Supplies Manufacturing Kansai Co., Ltd.
- Toyohashi Precision Products Co., Ltd.
- Konica Minolta Electronics Co., Ltd.
- Konica Minolta Business Solutions Japan Co., Ltd.
- Konica Minolta Chemical Co., Ltd.
- Konica Minolta Opto Products Co., Ltd.
- Konica Minolta Opto Device Co., Ltd.,
- Konica Minolta Glass Tech. Co., Ltd.
- Konica Minolta Technoproducts Co., Ltd.
- Konica Minolta Healthcare Co., Ltd.
- Konica Minolta Technosearch Co., Ltd.
- Konica Minolta Engineering Co., Ltd.
- Konica Minolta Business Associates Co., Ltd.

19 affiliates outside Japan

- Konica Minolta Business Technologies (Dongguan) Co., Ltd.
- Konica Minolta Business Technologies (Wuxi) Co., Ltd.
- Konica Minolta Business Solutions (China) Co., Ltd.
- Konica Minolta Supplies Manufacturing U.S.A., Inc.
- Konica Minolta Business Solutions U.S.A., Inc.
- Konica Minolta Business Solutions Europe GmbH
- Konica Minolta Business Solutions Deutschland GmbH
- Konica Minolta Business Solutions (UK) Ltd.
- Konica Minolta Supplies Manufacturing France S.A.S.
- Konica Minolta Business Solutions France S.A.S.
- Konica Minolta Business Solutions Australia Pty. Ltd.
- Konica Minolta Opto (Dalian) Co., Ltd.
- Konica Minolta Optical Products (Shanghai) Co., Ltd.
- Konica Minolta Opto (Shanghai) Co., Ltd.
- Konica Minolta Glass Tech (M) Sdn. Bhd.
- Konica Minolta Sensing Americas, Inc.
- Konica Minolta Sensing Europe B.V.
- Konica Minolta Sensing Singapore, Pte. Ltd.
- Konica Minolta Medical Imaging U.S.A., Inc.

Changes in the boundary for fiscal 2013 results

Konica Minolta Logistics Co., Ltd. was removed from the boundary with the transfer of its business.
Konica Minolta Sogo Service Co., Ltd. changed its name to Konica Minolta Business Associates Co., Ltd.

External Assurance

Konica Minolta engaged KPMG AZSA Sustainability Co., Ltd. to provide assurance on whether its CO_2 emissions from procurement, production/research and development, product distribution, sales and service, and product usage; energy use; waste discharged externally from manufacturing; atmospheric emissions of volatile organic compounds (VOCs); and water consumption have been measured, gathered and disclosed in accordance with the criteria set by the Group.

KPMG

Independent Assurance Report

To the President and CEO of Konica Minolta, Inc.

We were engaged by Konica Minolta, Inc. (the "Company") to undertake a limited assurance engagement of the CO_2 emissions from procurement, production/research and development, product distribution, sales and service, and product usage, energy use, waste discharged externally from manufacturing, atmospheric emissions of volatile organic compounds (VOCs) and water consumption for the period from April 1, 2013 to March 31, 2014 (the "Indicators") included in its Environmental Report 2014 (the "Report") for the fiscal year ended March 31, 2014.

The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Report, which are derived, among others, from the Environmental Reporting Guidelines (2012) of Japan's Ministry of the Environment, the Act on the Rational Use of Energy, the Act on Promotion of Global Warming Countermeasures, the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) by World Resources Institute and World Business Council for Sustainable Development.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information', 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines for the Assurance of Sustainability Information' of the Japanese Association of Assurance Organizations for Sustainability Information. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Report and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and also recalculating the Indicators.
- Visiting to the Company's one domestic factory selected on the basis of a risk analysis.
- Evaluating the overall statement in which the Indicators are expressed.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Report.

Our Independence and Quality Control

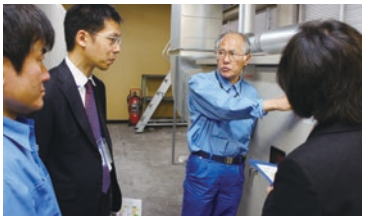
We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
September 19, 2014

Period: March to June 2014

On-site audit of Konica Minolta Mizuho Site



Comments on the Assurance Process

Naomi Sugo, KPMG AZSA Sustainability Co., Ltd.

Konica Minolta conducted a materiality analysis in the field of the environment when formulating its medium-term environmental plan. It identified material risks and opportunities from two perspectives: materiality from the standpoint of stakeholders and materiality from the standpoint of business. After deriving important themes and important issues from the identified material risks and opportunities, it established targets in terms of both corporate value and environmental value. I believe that this has made it easier for information users to understand material environmental risks and opportunities for the Konica Minolta Group and led to the Group's clear indication that it intends to create value for both society and the company.

Meanwhile, although the report explains the Group's process for establishing priority targets in fields besides the environment, it does not specify material risks and opportunities identified as a result of that process. The GRI guidelines, revised in May 2013, now require organizations that wish to publish reports compliant with the 4th edition of the GRI Guidelines to disclose not only the process for determining report content but also the material aspects identified. I hope that the Group will further increase transparency regarding material aspects in reporting on fields besides the environment.