

Konica Minolta  
Sustainability Report 2004



KONICA MINOLTA

# Konica Minolta Group

Konica Minolta is in the business of "Imaging, From Input To Output." We focus on four core technologies"optical," "nanotechnology," "imaging," and "materials." And we provide a variety of products and services that make a new world of imaging possible in a broad range of fields, from general consumer uses to office, medical, printing, business and the office.

## Innovation to create a new inspiring world for the next generation.

Today's world demands new value.

Amid the rapid growth of digital technologies and networking, the world of imaging needs innovative technologies and the creation of new value.

Konica Minolta aims to be an innovator that continues to inspire the world of imaging, and aims to be a global market leader with its advanced technologies and reliability.

To do this, we recently made a brand new start as an integrated corporate group.

### Management Philosophy

The creation of new value.

### Management Visions

An innovative corporation that continues to create inspiring products and services in the field of imaging

A global corporation that leads the market by advanced technologies and reliability

### Corporate Message

The essentials of imaging\*

\* The message represents our wish to be acknowledged as an essential company, by offering essential products, services and solutions to customers in the world of imaging.



Indirect support functions that group companies share in common, such as research and development, incubation of new technologies and businesses, and administration and services relating to intellectual property.

### Konica Minolta Technology Center, Inc.



Manufacturing, sales and related services for copiers, printers, microfilm reading and output devices, fax machines, and related supplies, etc.

### Konica Minolta Business Technologies, Inc.

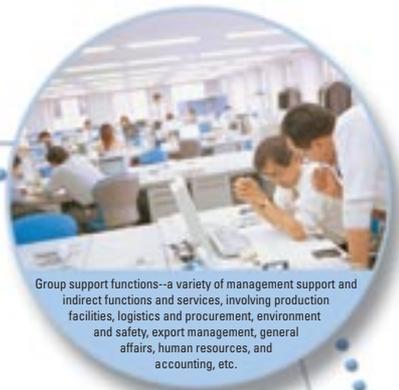


Manufacturing and sales of optical products [optical pickup lenses, microcamera units, etc.], related devices and materials for electronics materials [e.g., triacetyl-cellulose (TAC) film for use in LCDs].

### Konica Minolta Opto, Inc.



**KONICA MINOLTA**



Group support functions--a variety of management support and indirect functions and services, involving production facilities, logistics and procurement, environment and safety, export management, general affairs, human resources, and accounting, etc.

**Konica Minolta Business Expert, Inc.**



Manufacturing and sales of instrument systems for industrial, photographic, and medical industries.

**Konica Minolta Sensing, Inc.**



Manufacturing, sales, and related services for film and processing equipment for medical and graphic imaging.

**Konica Minolta Medical & Graphic, Inc.**



Manufacturing, sales, and related services for color film, digital cameras, film cameras, inkjet media, and related devices.

**Konica Minolta Photo Imaging, Inc.**

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**About This Report**

**Fiscal Year for Reporting**  
 Fiscal 2003  
 Japan: April 1, 2003 to March 31, 2004  
 Overseas: January 1, 2003 to December 31, 2003

**Scope of Report**  
 The entire Konica Minolta Group in Japan and overseas

**Holding Company**  
 Konica Minolta Holdings, Inc.

**Business Companies**  
 Konica Minolta Business Technologies, Inc.  
 Konica Minolta Opto, Inc.  
 Konica Minolta Photo Imaging, Inc.  
 Konica Minolta Medical & Graphic, Inc.  
 Konica Minolta Sensing, Inc.

**Common-Function Companies**  
 Konica Minolta Technology Center, Inc.  
 Konica Minolta Business Expert, Inc.

**Net Sales**



**Corporate Profile**

<b>Name:</b> Konica Minolta Holdings, Inc.
<b>Head Office:</b> 1-6-1, Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan
<b>Kansai Office:</b> 2-3-10, Nishihonmachi, Nishi-ku, Osaka-shi, Osaka 550-0005, Japan
<b>President and CEO:</b> Fumio Iwai
<b>Established:</b> December 22, 1936
<b>Paid-in Capital:</b> 37,519 million yen
<b>Fiscal Year End:</b> March 31
<b>Number of Employees:</b> 34,710 persons (consolidated basis, as of March 31, 2004)
<b>Description of Business:</b> Holding company (formulation and implementation of Group management strategies, evaluation of Group business management, and overseeing of Group business management activities)
<b>Management Structure:</b> Governance based on "board-with-committees" system

# Aiming for Sustainable Development

The twenty-first century, called by some people the “Century of the Environment,” is in its fifth year already, but human activities continue to threaten the capacity of our planet. And if you consider the big picture, it is difficult to say that environmental conditions are improving. Faced with this reality, we must all ask ourselves what we should do to promote sustainable development.

In August 2003, Konica Minolta Holdings, Inc. was born. Soon after, in October, the Konica Minolta Group was launched under a new structure featuring a holding company, business companies, common-function companies, and subsidiary companies, and today it is actively engaged in business around the world. Now that we have shifted to this new structure, when it comes to global environmental issues, the entire Konica Minolta Group must move forward in a unified way toward common targets. Making this happen is one role of the holding company, and I see it as my own responsibility.

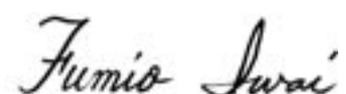
To help the cause of sustainable development, Konica Minolta’s duty as a manufacturer is to reduce environmental impacts at every stage of the life cycles of our products. To make progress globally and at the group-wide level, the environmental awareness of each and every employee is important.

We have decided to promote a unified system of environmental management at Konica Minolta by integrating the entire Group, including affiliated companies, under the ISO 14001 framework. In fiscal 2003, we completed the first phase of a multi-site ISO 14001 certification for the Group, including the holding company, five business companies, two common-function companies and a number of affiliates. We are making preparations for greater integration of affiliated companies under this framework, with the aim of completing this process in fiscal 2005.

One of the basic attitudes that the entire Konica Minolta Group must have is to “create a corporate culture that is open and fair and has a global perspective.” To do so, we are making “compliance” one of our most important strategies. This includes not only compliance with laws and regulations, but also with company regulations and with a sense of corporate ethics. By being meticulous with these efforts we aim to increase corporate value, and to maintain the trust that our stakeholders place in us.

“Transparency” is one of my mottos and this includes not only financial transparency but also transparency in environmental and social dimensions. I think that it is increasingly important, in corporations and in society, to inform citizens about the initiatives and approaches of corporations, and conversely, to create more opportunities for corporations to re-think issues from the citizen’s perspective. We will continue to promote information disclosure through the sharing of information and other forms of communication in order to empower society, build the spirit of cooperation, and strengthen the sense of mutual trust.

July 2004



Fumio Iwai

President and CEO  
Konica Minolta Holdings, Inc.



# Our approaches and initiatives to promote sustainable development

## To “create new value” we must first fulfill our social responsibility.

We have made “the Creation of New Value” our management philosophy at the Konica Minolta Group. In order to create new value today and maintain the support and trust of our customers, we must fulfill our responsibility to society as a corporate citizen. At the Konica Minolta Group, each company and the entire Group together would like to fulfill that social responsibility through a variety of initiatives to protect the environment, and through activities on the social dimension in relationships with a variety of stakeholders.

## Global, group-wide, and life cycle—three dimensions of our efforts.

To fulfill our social responsibility, we are taking action on three levels: global, group-wide and product life cycle. A high ratio of our production and sales occur overseas, so a global and group-wide perspective is essential for initiatives relating to the environment and social dimensions, with Konica Minolta Holdings at the core of the Group management. In addition, on the environmental dimension, as a manufacturer we work hard to quantitatively determine the environmental impacts of the entire product life cycle, and to reduce those impacts at all stages.

## “Management based on facts”—Our basic approach to environmental matters.

Our basic approach with initiatives to address the environmental dimension is to work steadily to resolve environmental issues, based on reliable data and quantitative measurements of performance and impacts.

### 1 Environmental management through multi-site ISO certification

By multi-site certification under ISO 14001, we are promoting environmental activities as a whole Group.

[See page 10 for details.](#)

### 2 Initiatives to counter global warming

We are working to reduce CO<sub>2</sub> emissions with a total life cycle approach, from the product’s “cradle to grave.”

[See page 18 for details.](#)

### 3 Initiatives for a society with sound material cycles

We are striving to reduce the resources we use to the absolute minimum, turn the waste back into resources, and collect and recycle used products and packaging. These are the keys to our approach.

[See pages 15 and 20 for details.](#)

### 4 Prevention of chemical pollution and reduction of environmental risk

As handlers of chemical substances, we go to great lengths to implement “responsible care.”

[See page 16 for details.](#)

## On the social dimension, our focus is on “compliance” and “good relations with stakeholders.”

To address the social dimension of our corporate responsibility, we are tackling issues in our day-to-day business activities based on the following two pillars:

### 1 Compliance

We see this as key to good governance, and are enhancing our organizations’ abilities to ensure compliance with laws, regulations, rules and standards.

[See page 5 for details.](#)

### 2 Good relations with stakeholders

We are actively expanding our information provision and communications activities, and consider our relationships with a wide range of stakeholders to be important.

[See page 24 for details.](#)

# Konica Minolta's new management structure is designed to make our corporate activities more transparent and build the trust of our stakeholders.

We established Konica Minolta as a group of separate companies linked through a holding company, as the best structure for the Group, and in order to improve management transparency, we established Konica Minolta Holdings, Inc. based on the "board-with-committees" structure promoted under Japanese law. Along with

## Konica Minolta's Governance

Our new structure allows us to achieve timely, effective, and transparent management.

Konica Minolta's system of separate companies linked through the holding company has placed all of our business functions within separate companies, thus clarifying the managerial responsibility for each of our businesses; this devolution and separation of control is aimed at increasing our competitiveness. Each business company is given the authority to conduct all necessary operations for each of their business activities. This allows for flexible and rapid responses in the operation and management of each company, while at the same time allowing the holding company to concentrate on the management of the Group as a whole. More efficient management of the entire Konica Minolta Group has also been made possible by concentrating activities that benefit the entire Group—such as research and development and other indirect functions—within specialized, common-function companies.

these features, we have also strengthened the governance of the entire Konica Minolta Group by enhancing our internal auditing systems, promoting regulatory compliance, and other measures.

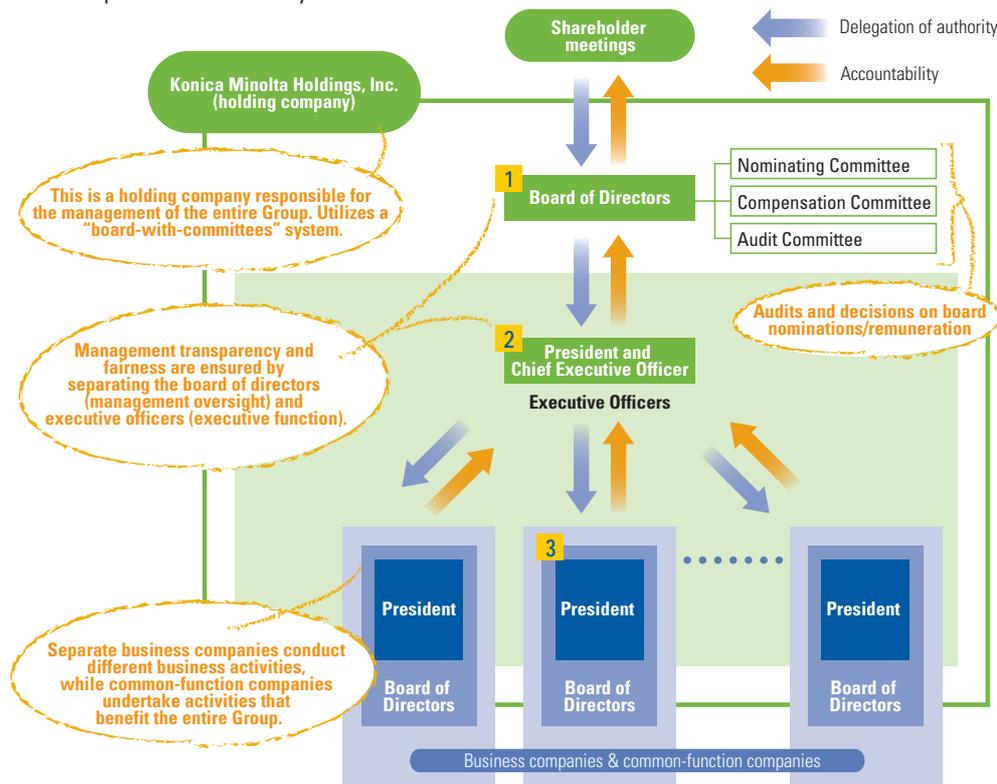
## The Board of Directors (and its Committees) and Executive Officers—Organization and Roles

Our new operations management systems have given us better control and speed.

A traditional board of directors with an auditing system was responsible for both management oversight and executive functions. Under our new "board-with-committees" system at Konica Minolta Holdings, these functions have been separated, with the board of directors responsible for overseeing management, and executive officers responsible for actually performing the management function. This improved system enhances the transparency of management.

The executive officers implement the activities entrusted to them by the board of directors. The president of each business company and common-function company serve also as the executive officers for Konica Minolta Holdings, thus running their respective companies while being fully aware of the management of the entire Konica Minolta Group. Furthermore, a majority of members of each of the three board committees for Konica Minolta Holdings, as well as the chairman of each committee, are outside directors; this serves to improve the soundness of the board's management oversight function.

### The Corporate Governance System of Konica Minolta



#### Konica Minolta Holdings, Inc. (holding company)

##### 1 Board of Directors

The highest decision-making body for the Group. In order to improve the oversight function, a majority of each of the three committees of the board are from outside the Group.

##### 2 President and Chief Executive Officer

Entrusted by the board of directors with responsibility for controlling and directing decisions about all operations, as well as for their execution.

To support these activities, the Executive Committee has been established. This committee has supporting committees on cross-cutting issues relevant to the entire Group, such as investment, technical strategy, brand management and compliance.

#### Business companies and common-function companies

##### 3 President

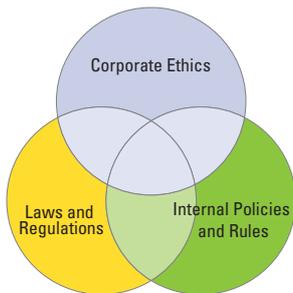
In addition to being the top management official within each business company, each president also serves as an executive officer for Konica Minolta Holdings. These presidents receive instructions from and report to the CEO of the holding company at the Group Executive Officer's Meetings and Group Management Meetings.

Compliance: The Foundation for Good Governance

# We increase corporate value by establishing and implementing Conduct Guideline

Konica Minolta views ‘compliance’ in broad terms—not only complying with applicable laws and regulations, but also complying with corporate ethics, internal policies and regulations. Moreover, we view compliance as a key pillar of good governance for the entire Konica Minolta Group, making it a high priority for all of our corporate activities. The CEO of Konica Minolta Holdings therefore issued the ‘Compliance Promotion Declaration’ in October 2003, at the time of our corporate integration, and we established the “Konica Minolta Group Conduct Guideline”.

**Compliance at the Konica Minolta Group**



■ Konica Minolta Group Conduct Guideline (excerpts)

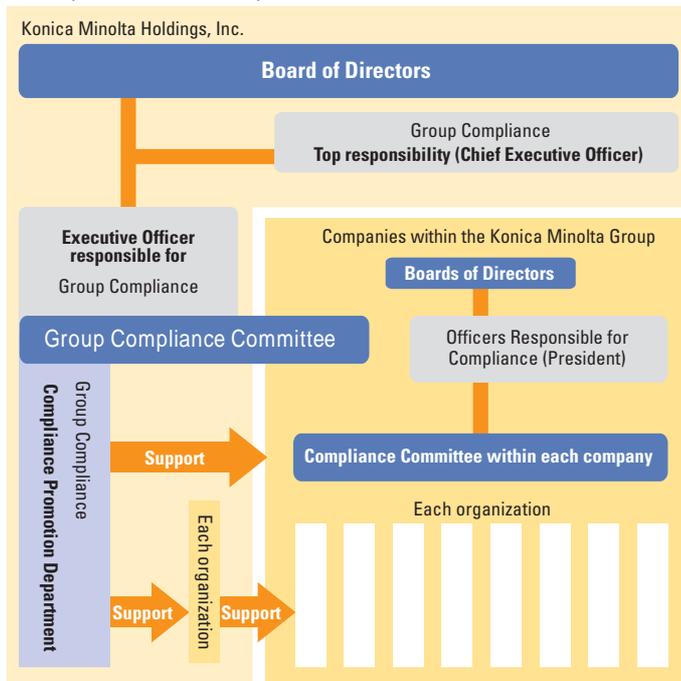
Basic Stance	
1. We shall comply with all applicable laws and internal policies and regulations.	
2. We shall respect social standards, and act with good discretion, responsibility, and due awareness of corporate ethics.	
3. We shall endeavor to fully understand the contents of this Guideline and comply with them at all times.	
4. We shall not act in violation of this Guideline. Pursuit of profit, service for the company, orders from superiors, precedent, prior cases in other companies, and industry or national practices provide no justification for any violation.	
.....	
<b>Products and Services</b>	
1. We shall provide useful, safe, high-quality products and services to customers.	(Six items total)
<b>Fair Transactions</b>	
1. We shall comply with anti-trust and competition laws, and conduct transactions in a manner that is fair, transparent and promotes free competition.	(Eleven items total)
<b>Export and Import Procedure</b>	
1. We shall comply with all applicable export control laws as well as internal policies and regulations, in the export or provision of any item or technology.	(Three items total)
<b>Confidential Information and Intellectual Property</b>	
1. We shall be aware of the importance of protecting the confidential information of the company or third party, and shall maintain the confidentiality of such information, in compliance with all applicable internal policies and regulations.	(Five items total)
<b>Communication and Information Disclosure</b>	
1. We shall conduct voluntary, fair and timely disclosure of useful and reliable information when required by law, and as appropriate on other occasions.	(Five items total)
<b>Environmental Protection</b>	
1. We shall develop and provide products and services with due consideration to the environment, health and safety at all stages—from design, manufacturing, distribution, and use, to disposal.	(Two items total)
<b>Contribution to Society</b>	
1. We shall work for the mutual benefit of and harmonious relations between society and Group companies, whether domestically or overseas.	(Two items total)
<b>Antisocial Forces</b>	
1. We shall not enter into relations with any entity working against the interests of society. We shall steadfastly refuse any unlawful demand from any such entity, and shall not offer cash or other compensation to settle such demands.	(Two items total)
<b>Respect for Employees</b>	
1. We shall endeavor to make the lives of employees comfortable and fulfilling.	(Four items total)
<b>Internal Policies and Regulations</b>	
1. We shall comply with all applicable internal policies, rules, regulations and manuals.	(Seven items total)

Compliance Promotion System

# We have created a system to promote compliance throughout the Konica Minolta Group.

To create our new compliance system in October 2003, an executive officer in charge of compliance was appointed by the Board of Directors of Konica Minolta Holdings. This officer established a “Group Compliance Committee” as an advisory body that is empowered to coordinate, implement, and monitor the Group’s compliance. Instructed by this committee, the Legal Division in the Holding company assists each of Group companies with compliance activities. At the same time, each of the major subsidiaries also has its Compliance Committee led by its compliance officer to promote compliance activities suited to the particular situation of each company.

■ Compliance Promotion System



Help Line

In the event an employee within the Konica Minolta Group discovers an act that violates our policies on compliance, he or she can directly contact and consult with the Compliance Committee in each Group company or go through the ‘Help Line’ service set up at Konica Minolta Holdings. To make such consultations as easy as possible, employees can use various channels to reach the Help Line, including not only the telephone but also e-mail and the company intranet. Accessing the Help Line will not lead to any negative actions against the employee.

Distribution of Our Compliance Manual

So that our Conduct Guideline can be put into practice by every employee in the Konica Minolta Group, we have developed a ‘Konica Minolta Compliance Manual’ and distributed it in April 2004. This manual lists about a hundred specific situations that employees could encounter, and indicates the relevant issues and appropriate responses. A Chinese language version has also been produced.

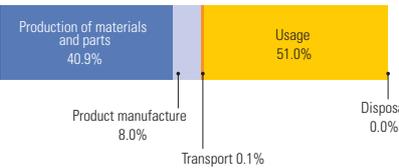
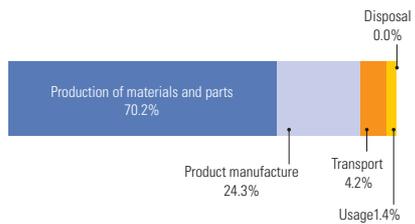


The Konica Minolta Compliance Manual

# Konica Minolta and the Environment

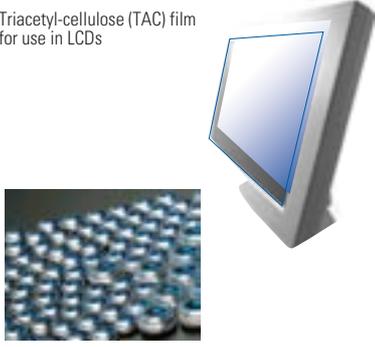
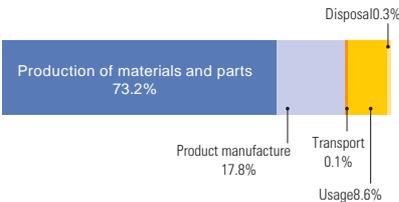
Konica Minolta produces a wide range of products—from copiers to single-use cameras and optical devices—and our business activities—from resource and material procurement, through manufacturing, transportation and product disposal—involve many implications for the environment. We have therefore created our own environmental rules and regulations, based on the ISO 14001 international standards for environmental management, and are working to conduct our activities in an environmentally sound manner, including creating and promoting environmentally sound products.

## Features of Our Environmental Consideration for Each Product

	Digital multi-function devices and laser printers	Single-use cameras
Products	 <p>bizhub C350</p> <p>Page Pro 1300W</p>	 <p>Goody BEST Single-Use Camera</p>
Global warming	<p>Usage accounts for about 50% (Digital multi-function devices)</p>  <p>Energy efficiency during usage has been improved significantly through the development of more energy efficient technologies.</p>	<p>Production of materials and parts accounts for about 70%</p>  <p>We promote the reuse of parts, which saves the energy that would have been needed to manufacture new parts, and achieved a reuse ratio of over 90% (by total number of parts).</p>
Other environmental issues	<p><b>Resource Consumption and Global Warming Impacts</b></p> <p>By developing polymerized toner, we have reduced the consumption of CO<sub>2</sub> during production of toner by 32.4%. We have also reduced the consumption of toner by making toner particles more uniform, and installing built-in toner recycling systems.</p> <p><b>Resource Consumption and Disposal Issues</b></p> <p>We collect, reuse and recycle used toner cartridges for printers, toner bottles for digital multi-function devices, and the devices themselves.</p> <p><b>Information Disclosure</b></p> <p>We actively disclose information about our products through the "Ecoleaf" Type III environmental labeling system. We have also received "system certification" from the Japan Environmental Management Association for Industry (JEMAI) to authorize our internal data collection system used to gather information to be used in labeling for our copier and printer businesses.</p>	<p><b>Resource Consumption and Disposal Issues</b></p> <p>Konica Minolta started collecting used single-use cameras from consumers in 1990, and began reuse and recycling of these products on a large scale in 1992, and our initiative has been highly praised as an example of successful product recycling.</p> <p><b>Chemicals with Environmental Impacts</b></p> <p>With the models released in March 2002, we became the first in the world to sell single-use cameras made with lead-free solder; all of our models newly developed since then are lead-free.</p> <p><b>Information Disclosure</b></p> <p>Through the Internet, we disclose product information using the Ecoleaf Type III environmental labeling program, and place the Ecoleaf logo on product packaging to indicate our participation in the program.</p>

The products manufactured by Konica Minolta span a wide range, from single-use cameras and color film, to digital cameras, digital copiers, different types of lenses and photographic developing equipment and triacetyl-cellulose (TAC) film for use

in LCDs. For all of these types of products, we work to reduce the environment impacts throughout each product's life cycle. Here are examples of the environmental consideration that goes into different Konica Minolta products.

Color film / Printing paper / Film developer	Digital cameras	Triacetyl-cellulose (TAC) film for use in LCDs / Plastic lenses for CD and DVD players	Product lines
 <p>Eco JET</p> <p>CENTURIA SUPER 400</p>	 <p>DiIMAGE Z2</p> <p>DiIMAGE Xg</p>	 <p>Triacetyl-cellulose (TAC) film for use in LCDs</p> <p>Aspherical plastic lenses</p>	
<p>Product manufacture account for about 60% (Color film)</p>  <p>Production of materials and parts 20.5%</p> <p>Product manufacture 58.2%</p> <p>Transport 2.3%</p> <p>Disposal 19.0%</p> <p>Usage 0.0%</p> <p>We introduced electrical co-generation systems at our plants as early as 1987, and now have three such systems .</p>	<p>Production of materials and parts accounts for about 70%</p>  <p>Production of materials and parts 73.2%</p> <p>Product manufacture 17.8%</p> <p>Transport 0.1%</p> <p>Usage 8.6%</p> <p>Disposal 0.3%</p> <p>By reducing the size and weight of our products, we have reduced the use of raw materials, and thus the energy consumed in the production of raw materials .</p>	<p>Product manufacture account for about 85% [Triacetyl-cellulose (TAC) film for use in LCDs]</p>  <p>Production of materials and parts 11.0%</p> <p>Product manufacture 85.6%</p> <p>Transportation 2.0%</p> <p>Disposal 1.4%</p> <p>Use 0.0%</p> <p>As we work to increase productivity at our plants, we also promote reductions in energy consumed per unit of production .</p>	Proportion of CO <sub>2</sub> released during each stage of product life cycle, and measures taken
<p><b>Hazardous Chemicals</b></p> <p>When we develop new products, we conduct a product assessment, which includes a "Safety Verification" system—an analysis of risks from any new chemical substances used in our products .</p> <p><b>Chemical Substances</b></p> <p>We promote information disclosure and risk communication for our plants. We hold "Community Environmental Briefings" at our Tokyo and Odawara sites to promote a dialogue with local citizens .</p> <p><b>Water Use</b></p> <p>Our film making plants consume large quantities of clean water. In order to reduce our use of water resources, we have set the target of reducing consumption by 20% by fiscal 2007, compared to fiscal 2002 .</p>	<p><b>Chemicals with Environmental Impacts</b></p> <p>We reduce our usage of hazardous chemicals by:</p> <ul style="list-style-type: none"> <li>■ Using lead-free materials for camera lenses and circuit board solder .</li> <li>■ Reducing the use of chromate-treated steel plate which includes hexavalent chromium compounds.</li> <li>■ Utilizing PVC-free materials for camera cases and coatings for cords used inside</li> </ul> <p><b>Resource Consumption and Other Issues</b></p> <p>Making products smaller and lighter not only reduces the consumption of resources, but also helps to reduce the energy needed for transport and the environmental impacts from product disposal. By using Konica Minolta's specially designed curved zoom lenses, we are making our cameras more compact and lightweight.</p>	<p><b>Chemical Substances</b></p> <p>At our plant where we produce triacetyl - cellulose (TAC) film for use in LCDs, we recover and recycle organic solvents, reducing the amount released into the atmosphere . This equipment is able to recover 99.7% of these chemicals .</p> <p><b>Resource Consumption, Global Warming and Chemical Substances</b></p> <p>Because the thickness of the triacetyl - cellulose (TAC) film for use in LCDs has been halved, we were able to achieve a 50% reduction in the amount of raw materials consumed per unit produced—as well as a 30% reduction in the use of energy, and a 50% reduction in the amount of organic</p> <p><b>Resource Consumption and Disposal Issues</b></p> <p>We sort the scrap plastic left over from the manufacture of our lenses, which then is recycled to manufacture shipping cases for lenses and for other uses, such as building materials.</p>	

## Special Feature

# Konica Minolta's approach to the environment, as seen through our digital multi-function devices.

**The world's first multi-function devices to receive the "Blue Angel" mark of approval!**

In December 2003, our "DiALTA Di3510" and "DiALTA Di3510f" became the world's first digital multi-functional device certified by Germany's "Blue Angel" environmental labeling system. Digital multi-function devices combine in one unit the functions of two or more devices, such as copiers, printers, scanners and facsimile machines;

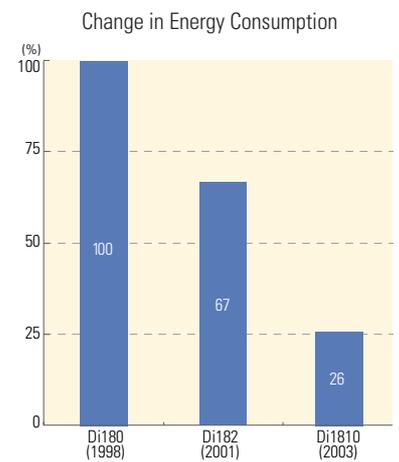
they are growing rapidly in popularity, replacing traditional copiers in the office today. Here we introduce Konica Minolta's environmental efforts with respect to our multi-function devices, which have met the demanding environmental standards of the European marketplace.

## Environmental considerations for multi-function devices, and challenges for Konica Minolta

Konica Minolta produces a wide range of products, from single-use cameras to printers and medical imaging devices. As a manufacturer not only of office equipment, but also of optical devices and chemicals, it is vital for Konica Minolta to quantitatively assess the environmental impacts of all of our activities throughout the entire life cycle of our products—from design, through manufacture, distribution, usage, disposal and recycling—and to seek ways to reduce environmental burdens at every stage. For our digital multi-function devices as well, to reduce environmental impacts throughout the product's entire life cycle, we take every possible measure including product assessment at the design and development phases, and "green procurement" of parts and materials.

### 1 Energy Efficiency during Use

The largest environmental impact of multi-function devices, in terms of CO<sub>2</sub> emissions during their life cycle, occurs during use. At Konica Minolta, in order to reduce CO<sub>2</sub> emissions due to product use, we are developing technologies to enable energy-efficient design. The digital multi-function device "DiALTA Di1810" is the remarkable embodiment of all these efforts. This model uses 74% less energy compared to models of just five years earlier—and it leads the industry as one of the most energy-efficient devices of its kind.



**Lead-free materials**  
Using lead-free solder for the electrical circuit board.



#### Space-saving design

Our space-saving design achieves efficient use of limited space in the office.



**Use of recycled materials**  
Recycled plastic materials are used for part of the product body.



**The use of universal design**  
Universal design for ease of use by a variety of users is incorporated throughout, as in the adjustable-angle operation panel.

#### Use of polymerized toner

Manufacturing of polymerized toner consumes 32.4% less energy than the conventional type of toner, reducing CO<sub>2</sub> emissions.



#### Reused parts

The product body includes reused parts.



#### Toner recycling mechanism

The imaging unit incorporates a toner recycling mechanism that uses the toner more efficiently and eliminates waste.





Our energy-efficient design has won praise—even in Europe, with its high standards.

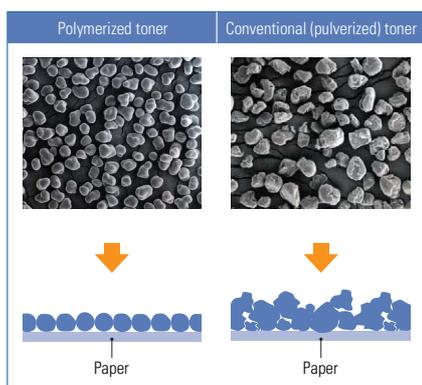
Using energy efficiently is something that everyone should strive for. Just as saving energy in society succeeds when everyone cooperates, the same is true when it comes to developing products. Products are most energy efficient when all the engineers developing various elements work in harmony, including fusing, control system, electrical system, drive mechanisms and printing.



Yoshihiko Sezukuri  
Development Division 24,  
Imaging Products Development Center 2,  
Konica Minolta Business Technologies, Inc.

## 2 Polymerized Toner

Polymerized toner results in clear and crisp images and fine colors. Making this type of toner involves chemical reactions that ensure that toner particles are consistently fine-grained; it also results in emissions of CO<sub>2</sub>, nitrogen oxides and sulfur oxides some 40% lower than previous methods. In printing, toner is heated and fused to the paper by being pressed onto the page as it melts; because polymerized toner grains are so fine, a smaller amount of toner is needed compared with pulverized toner, thus using fewer natural resources. Technology developed through Konica Minolta's chemical manufacturing operations have made this advance possible.



## 3 Reduction and Phase-Out of Chemicals with Environmental Impacts

The European Union's RoHS Directive prohibits the use of six chemical substances including lead and mercury from July 2006. To respond proactively to these regulations, we are switching to lead-free circuit boards for our multi-function devices, as well as non-brominated flame retardants used in plastic chassis. Another example is chrome-less steel plates, which are used for more than 96% of the sheet metal in our digital color multi-function device 8050. In addition, we are reducing and working toward eliminating the other chemicals with environmental impacts, including switching to halogen-free plastics parts for product chassis.

## 4 Closed-Loop Recycling Systems

We are promoting a "closed-loop recycling system," in which plastic parts collected from used multi-function devices are remolded for use as parts in new products. By installing a plastic pulverizing equipment, and improving the quality and uniformity of recycled materials, we can now use recycled plastic for exterior parts of products, which until now had rarely used recycled materials.

## We require all new products to meet "blue angel" standards

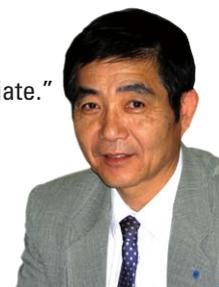
The new "Blue Angel Mark" criteria effective January 2004 for digital multi-function devices includes standards for hazardous substances, emissions, waste minimization, energy efficiency during usage, and the utilization of used products. These criteria, especially the standards for energy consumption, are very strict. In addition, to protect the health of users, standards also limit the total amount of emissions of volatile organic compounds, ozone, and noises. At Konica Minolta, when developing new products we now require all our multi-functional products to meet the Blue Angel standards.



The DiALTA Di3510 model was awarded the "Blue Angel Mark"

"We want to turn technologies into products that customers appreciate."

Hidehito Iwata  
Environment Department,  
R&D Administration Division  
Konica Minolta  
Business Technologies, Inc.



Environmental regulations around the world are getting increasingly stringent. To respond, it is essential to reduce environmental impacts at every stage of the life cycle of our products in a seamless fashion. We aim to provide customers with products they will appreciate, by going to great lengths to ensure that our products are environmentally sound, and this includes acting quickly to meet standards recognized around the world such as the Blue Angel program.

### ■ What is the "Blue Angel Mark"?

The "Blue Angel Mark" introduced in Germany in 1978 as the world's first environmental labeling system, was designed to encourage consumers to choose products and services with low environmental impacts. The Blue Angel Mark is considered the world's most widely recognized environmental label, and most environmental labeling programs around the world are based on it. Since becoming the first to receive the Blue Angel Mark for copiers in 1992, Konica Minolta has received numerous certifications especially for its copiers and printers.



Blue Angel Mark

# We are working in a unified way as a group to make continuous improvements in our environmental performance.

## Our Approach

After the integration that led to the formation of the Konica Minolta Group in August 2003, in October we re-organized the Group into a new set of businesses linked by a holding company. To provide consistent leadership for environmental activities under this new structure, we decided to work towards managing the entire corporate group under one single ISO 14001 certification.

## Results and Future Goals

Our goal is to have all Konica Minolta Group companies in Japan recognized under multi-site ISO 14001 certification. In fiscal 2003 we included the holding company and head offices of all our business companies and common-function companies in the scope of the certification. For our overseas operations—including in Asia, the United States, and Europe—we are working on certification on a regional basis.

### Environmental Policy of Konica Minolta

The Konica Minolta Group aims for both sustainable development and profitable growth. We integrate environmental, economic and social perspectives into our business strategies so that all of our activities are conducted in harmony with people and the environment.

Our basic approach is to work steadily to solve environmental issues, based on reliable data and quantitative measurements of performance and impacts.

#### "Management Based On Facts"

##### 1. A global citizen working toward a sustainable society

To promote sustainable society, we conduct business with the aim of continuously improving our performance in environmental preservation, economic growth and responsibility to society. To this end, all employees make an effort to enhance their knowledge and awareness about the global environment, economy and society, and to act responsibly in the pursuit of a sustainable society.

##### 2. Compliance with laws and other requirements

We comply with legal requirements in countries and regions where we do business, as well as with our own Group standards. We act fairly in responding to the expectations of our stakeholders and recognize the consensus of the international community.

##### 3. Consideration of the environment through the entire life cycle of products and services

We are committed to reducing environmental impacts at all stages of the life cycle of products and services, aware that responsibility for a product rests with its manufacturer.

##### 4. Initiatives to counter global warming

We work to steadily reduce greenhouse gas emissions from the business activities of the entire Group, throughout the life cycle of products and services, aware that global warming is an important issue for all humanity.

##### 5. Initiatives toward a sound material-cycle society

We constantly review what we can do as a corporate citizen to create a sound material-cycle society, while striving to minimize our consumption of natural resources, and promoting activities aiming for "zero waste disposal". We promote initiatives for the recovery and recycling of packaging materials and end-of-life products.

##### 6. Prevention of chemical pollution, reduction of environmental risk

Aware that chemical substances can have serious health, safety and environmental impacts, we take measures to prevent chemical pollution. In order to minimize environmental risk, we work steadily to minimize the amounts of chemicals we use, and to reduce the amounts of chemicals released.

##### 7. Information disclosure

We will be accountable to our stakeholders and strive for harmony with society by actively disclosing environmental information and conducting risk communication. Our Environmental Policy shall be made public.

##### 8. Environmental objectives and targets

We establish and administer environmental objectives, targets, and management programs to translate this Environmental Policy into reality, and work for continuous improvement.

### Konica Minolta's approach

### Seek consistency and efficiencies through ISO 14001-based multi-site management system

**1** We will expand our multi-site ISO 14001 certification to build one unified environmental management system covering affiliated companies in Japan.

We are working to expand the scope of our multi-site ISO 14001 certification, so that it will cover not only our production facilities, but also product development, sales and distribution activities by our affiliated companies in Japan. As a result, we will reduce our direct environmental impacts (such as paper consumption, waste generation and energy usage), as well as create a single environmental management system that considers indirect

environmental impacts, including the development and sale of environmentally sound products. Our multi-site ISO 14001 system will ensure that uniformly high-quality practices are followed without exception for all operations of the Konica Minolta Group; these standardized environmental practices will also increase the efficiency of our activities.

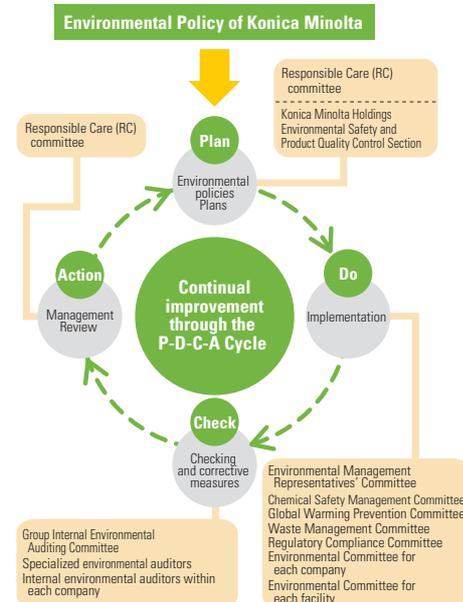
**2** We use environmental accounting in our environmental management system

We use an environmental budgeting system since fiscal 2001. We also use environmental accounting criteria to evaluate our environmental efforts and as guidelines for capital investments. By using

environmental accounting, we are able to link our environmental activities with management strategies, strengthening the coherence of our environmental actions.

Environmental accounts: See page 36

### Our environmental management system

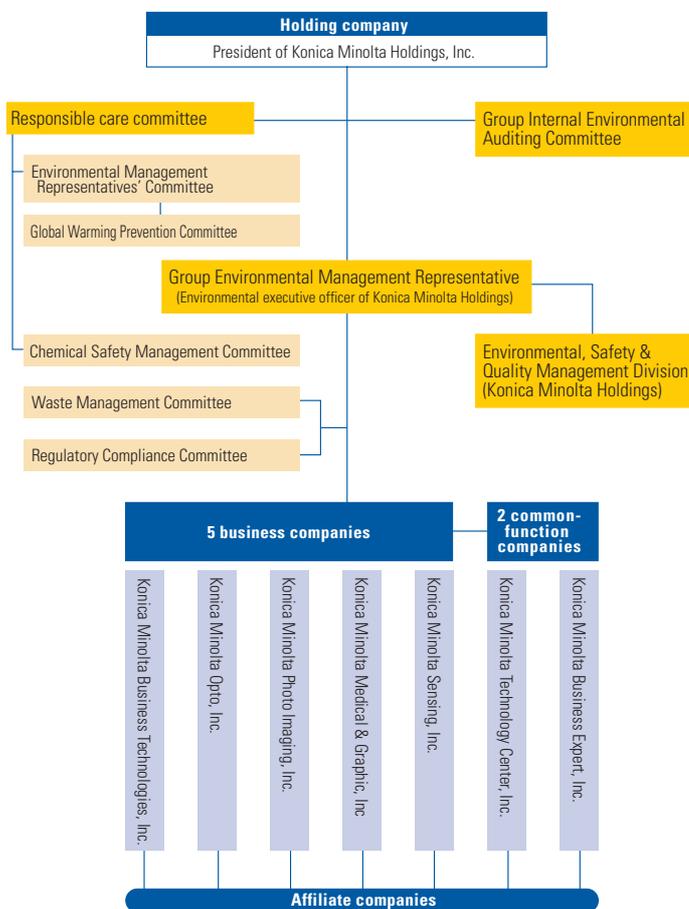


Konica Minolta's Structure to Promote Environmental Activities

We start with the cooperation of the newly formed Konica Minolta Group, and tailor environmental management to fit each business and facility.

Konica Minolta's "environmental activities promotion structure"—led by the President of Konica Minolta Holdings, and including environmental management officers of our five business companies and two common-functions companies, under which our affiliate companies around the world operate—is given strong powers to take appropriate actions throughout the entire Group. The highest decision-making body setting Konica Minolta's environmental goals is our Responsible Care (RC) Committee. We have also established lateral specialist committees that address activities at all of our manufacturing companies, following the ISO 14001 environmental management system's PDCA ("Plan-Do-Check-Act") approach. In addition, environmental management officers are designated for each of our facilities; each carefully manages our operation to reduce environmental impacts.

■ Environmental Activities Promotion Structure



Other measures

Environmental Audits

In keeping with ISO 14001 standards, we conduct external audits (inspections) once each year, and internal audits are conducted more frequently.

Accidents, Fines and Complaints

Konica Minolta did not incur any environment-related fines or charges in 2003. We received one complaint from local residents regarding odors, and four regarding noise. The cause of each of these complaints was investigated, and appropriate measures were taken; we also explained of the cause and measures to those making the complaints.

Green Procurement

In order to reduce our impact on the environment, Konica Minolta avoids attempts to oversimplify the evaluation products as of being "green" or not, but attempts to ensure that the items it procures have a low environmental impact throughout their entire life cycle. Also, we have been a member of the "Green Pur-

Risk Management

The ISO 14001 environmental management system helps to ensure that we properly observe legal requirements and manage risks

Environmental laws and regulations are of two main types, those covering factory operations and those related to products; our ISO 14001 system ensures that we comply with both. We have established a system for the entire Konica Minolta Group to share the latest information on legal requirements regarding business operations, and to check that those regulations are properly enforced. We also double-check our compliance through sharing information in a cross-cutting way among all of our manufacturing companies.



Sampling water at a waste water treatment facility

Environmental Education Efforts for Employees

We conduct a variety of training programs to improve our employees' environmental awareness.

We conduct training for all of our employees, including temporary staff, to ensure that we achieve our environmental goals. We conduct graduated training programs, including through Konica Minolta College. We conduct other activities to raise awareness of environmental issues, including an environmental seminar series by outside experts, and the Konica Minolta Environmental Award.



On-line environmental education developed by Konica Minolta Business Solutions Japan Co., Ltd.



Ceremony for the Konica Minolta Environmental Award. Awardees are recognized from among Konica Minolta employees around the world; seven prizes were awarded in 2003.

chasing Network (GPN)" since its inception, and conduct green procurement for a wide range of items, including office supplies, office and computer equipment, toilet paper, vehicles and forklifts, as well as the paper and ink that we use for company pamphlets and other publications.



Environmental Management in Medical and Printing Related Businesses Since its launch in 2000, our environmental committee has been tackling all aspects of environmental issues, including planning, development, manufacturing, sales and service. Our key topics in fiscal 2003 included working towards creation of a society with sound material cycles through "zero waste disposal" and using life-cycle analysis to reduce CO<sub>2</sub> emissions.

(Kumio Kanai, R&D Center, Konica Minolta Medical & Graphic, Inc.)

# We set group-wide policies and practice corporate management to reduce our impact on the environment.

## Results from Second Half of Fiscal 2003

We announced the Environmental Policy of Konica Minolta at the formation of our new holding company in August 2003, and formulated new targets for the second half of fiscal 2003 (from October 2003 to March 2004). Key results for this period include formulating our new greenhouse gas emissions reduction plan, aimed at preventing global warming, under which we have calculated CO<sub>2</sub> emissions from our products' life cycles for each of our new business domains. In terms of information disclosure, we have increased the number of sites that conducted "Community Environmental Briefings" or issued

"Site Reports." Four sites achieved "zero waste disposal" under our new rules. In addition, Konica Minolta Holdings, established as part of our corporate integration, acquired ISO 14001 certification.

Policy Areas		Mid-term Environmental Plan Objectives (Years mentioned in the table are fiscal years starting April 1)	Objectives
<b>Environmental Management</b>	Promoting consistent management and effective activities throughout the entire Group	2005: Complete group ISO 14001 certification for all Japanese companies in the Group 2005: Launch Konica Minolta's new environmental database system 2005: Establish new overseas environmental management system	Include Marunouchi site in multi-site ISO14001 certification
	Reducing the environmental impacts of products throughout their life-cycle (Eco-design)	2005: Utilize "environmentally sound design indicators"	Establish rules to calculate "product environmental efficiency" through life-cycle analysis
<b>Creation and Provision of Environmentally Sound Products</b>	Green Procurement	2006: 100% implementation of green procurement throughout Konica Minolta Group	Establishment of "Konica Minolta Green Procurement Guidelines"
	Preventing soil contamination	Ongoing: Review effectiveness and reevaluate measures at least once each year	<ul style="list-style-type: none"> <li>Formulate new guidelines for soil contamination monitoring and response</li> <li>Review effectiveness and reevaluate measures for all remediation sites</li> </ul>
<b>Reducing Environmental Risks</b>	Phasing out hazardous chemicals	(Atmospheric emissions) <ul style="list-style-type: none"> <li>Dichloromethane (2006): 120 t</li> <li>Ethyl acetate (2006): 165.5 t</li> <li>Methanol (2006): 50 t</li> <li>Methyl ethyl ketone (2005): 22 t</li> <li>DMF emissions phased out (2004)</li> </ul> (Amounts used) <ul style="list-style-type: none"> <li>Chloroform phased out (2010)</li> <li>1,2-Dichloroethane phased out (2010)</li> <li>RoHS-designated heavy metals (Pb, CrVI, Cd and Hg) phased out (2005) (Except items exempt in the RoHS Annex)</li> <li>Formalin phased out (2004)</li> </ul>	(Atmospheric emissions) <ul style="list-style-type: none"> <li>Dichloromethane: 169 t</li> <li>Methanol: 100 t</li> <li>DMF: 10.5 t</li> </ul> (Amounts used) <ul style="list-style-type: none"> <li>Benzene phased out</li> <li>Phase out use of Chloroform as a photosensitive material</li> <li>1,2-Dichloroethane: 8 t (excluding raw materials)</li> <li>Formalin phased out</li> </ul>
	Reducing greenhouse gas emissions by business and common-function companies (through reductions in product life-cycles)	2010: Reduce greenhouse gas emissions for entire Konica Minolta Group by 6% (1990 benchmark)	<ul style="list-style-type: none"> <li>Calculate 1990 (benchmark year) emissions for entire Konica Minolta Group</li> <li>Establish new emission reductions plans for each business company</li> </ul>
<b>Measures to Prevent Global Warming</b>	Reducing greenhouse gas emissions from sites	2010: Reduce total greenhouse gas emissions from all Japanese sites by 7% (1990 benchmark; excludes Kobe and Kofu sites)	<ul style="list-style-type: none"> <li>Recalculate CO<sub>2</sub> emissions for all sites using consistent criteria</li> <li>Formulate new reductions plans for each site</li> </ul>
	Establishing a system for CO <sub>2</sub> emissions trading within the Group	2008: Begin monetized trading of CO <sub>2</sub> emissions within Konica Minolta Group	<ul style="list-style-type: none"> <li>Establish rules for CO<sub>2</sub> emissions trading systems by Konica Minolta under holding company system</li> <li>Establish quantitative goals and indicators for introducing clean energy</li> </ul>
	Reducing consumption of water resources	2007: Reduce water consumption at high water use sites by 20% (2002 benchmark)	Establish goals for reducing the use of water resources
<b>Efforts Toward the Creation of a Society with Sound Material Cycles</b>	Realizing "Zero Waste Disposal"	2004: Level 1 (*1) attainment at all 22 production sites in Japan 2007: Level 2 (*2) attainment at all 22 production sites in Japan	Level 1 (*1) attainment at 5 sites
	Active information-disclosure and communications with stakeholders	2005: Publish data on overseas manufacturing sites through the Internet	<ul style="list-style-type: none"> <li>Hold "Community Environmental Briefings" at 1 more site</li> <li>Issue "Site Reports" for 2 more sites</li> </ul>
<b>Promoting Information Disclosure</b>	Introducing integrated indices to evaluate environmental, economic and social factors	2004: Introduce "environmental management indicators" into evaluations of environmental operation	Establish "environmental management indicators", and set quantitative goals
	Utilize environmental accounting for management activities	2006: Introduce "Sustainability Accounting"	Establish rules for converting environmental impacts and risks into monetary values
<b>Efforts Toward the Creation of a Sustainable Society</b>			

Notes: \*1: "Level 1" criteria: Recycle at least 90% of waste, reduce landfill to 5% of total waste, and reduce external fees for waste treatment by greater than 90% (1998 benchmark; 1999 for certain items).  
\*2: "Level 2" criteria: Reduce the volume of waste discharged externally by 30% per unit of sales (2001 benchmark).

## Key Issues and Policies for Fiscal 2004 and Beyond

Key issues for our new mid-term environmental objectives include efforts to prevent global warming and the promotion of information disclosure.

We believe that preventing global warming is a pressing issue for the manufacturing industry. At Konica Minolta, our efforts are organized around two pillars: targets for total emissions by site, and targets for total emissions for the Konica Minolta Group, including reducing CO<sub>2</sub> emissions throughout our products' life cycles.

To achieve our goal of communicating our environmental efforts

thoroughly to those outside the Group, we will continue to disclose relevant data, and will expand dialogs with stakeholders. Although the total number of our facilities has increased through our corporate integration, we will continue to undertake thorough on-site inspections and actions, and will consistently implement our environmental measures. We will work to find the best methods and best ways forward, based on facts—that is, based on concrete information from our factories, our products, and the world around us.

Fiscal Year 2003 - Second Half			Fiscal Year 2004 Objectives
	Results	See Page(s)	
	<ul style="list-style-type: none"> <li>Expanded the scope of ISO 14001 certification to include Marunouchi site</li> <li>Continued operation of multi-site ISO 14001 certification expanded in first half of 2003, and prepared for further expansion of the scope of certification</li> </ul>	10 ~ 11	Expand scope of group ISO 14001 certification to include more affiliates in Japan (excludes sales companies)
	<ul style="list-style-type: none"> <li>Investigated introduction of optimal life-cycle analysis-based indicators for comprehensive evaluation of Konica Minolta Group products</li> </ul>	14 ~ 15	Finalize suitable "environmentally sound design indicators"
	Investigated the creation of new "Konica Minolta Green Procurement Guidelines"		Establish and implement new "Konica Minolta Green Procurement Guidelines"
	<ul style="list-style-type: none"> <li>Formulated new guidelines for soil contamination monitoring and response</li> <li>Reviewed effectiveness of measures for all remediation sites</li> </ul>	16 ~ 17	<ul style="list-style-type: none"> <li>Manage sites following new guidelines for soil contamination monitoring and response</li> <li>Review effectiveness of efforts for all target sites at least once each year.</li> </ul>
	<p>(Atmospheric emissions)</p> <ul style="list-style-type: none"> <li>Dichloromethane: 161 t</li> <li>Methanol: 97 t</li> <li>DMF: 3.5 t</li> </ul> <p>(Amounts used)</p> <ul style="list-style-type: none"> <li>Benzene phased out</li> <li>Completed development of technologies to phase out chloroform as a photosensitive material</li> <li>1,2-Dichloroethane: 4 t</li> <li>Completed development of technologies to phase out formalin</li> </ul>		<p>(Atmospheric emissions)</p> <ul style="list-style-type: none"> <li>Dichloromethane: 169 t</li> <li>Phase out emissions of DMF</li> </ul> <p>(Amounts used)</p> <ul style="list-style-type: none"> <li>1,2-Dichloroethane: 8 t (excluding raw materials)</li> <li>Phase out use of formalin</li> </ul>
	<ul style="list-style-type: none"> <li>Calculated benchmark for Konica Minolta Group</li> <li>Set targets to be attained by 2010 for each manufacturing company</li> </ul>	18 ~ 19	Establish new plans for greenhouse gas reductions for each of our business and common-function companies
	<ul style="list-style-type: none"> <li>Recalculated CO<sub>2</sub> emissions for all sites using consistent criteria</li> <li>Set targets to be attained by 2010 for each site</li> </ul>		<ul style="list-style-type: none"> <li>Establish new plans for reductions in energy use for each site</li> <li>Conduct third-party audits of emissions for each site</li> </ul>
	<ul style="list-style-type: none"> <li>Conducted reviews of most effective trading rules</li> <li>Decided to include clean energy in evaluations of introductions of new facilities and equipments, based on indicators of both economic efficiency and effectiveness</li> </ul>		Arrange emissions registers for each of our business and common-function companies
	Established the goal of reducing water use in 2007 by 20% (compared to 2002 benchmark)	20 ~ 21	Propose and begin implementation of specific plans for reducing water use for each of our sites
	Level 1 (*1) attained by 4 sites		Level 1 attainment at 8 sites (all sites) in Japan
	<ul style="list-style-type: none"> <li>"Community Environmental Briefing" newly held at Odawara site</li> <li>"Site reports" for Kobe site and Kofu site initiated</li> </ul>	22 ~ 23	Disclose information on all Japan sites within the Group through the Internet
	Investigated evaluation of environmental performance and built a framework		Introduce a system of environmental performance indicators
	Established rules for converting environmental impacts and risks into monetary values	36	Introduce environmental investment criteria for use with new capital investments

# We consider how to recycle resources by reducing, re-using and recycling, right from the product development phase.

## Our Approach

To achieve a socio-economic system based on sound material cycles—a system that strives towards harmony with the environment—corporations must work to reform the existing system and move away from the “mass production, mass consumption, mass disposal” model towards an “optimal production, optimal consumption and minimum disposal” model. Konica Minolta has established a new environmental policy that aims towards this goal, and continues to create environmentally sound products.

## Results and Future Goals

We have introduced the practice of carrying out Life Cycle Assessments (LCA), which gauge a product’s total environmental impacts from the product development phase and consider the product’s contribution to a socio-economic system with sound material-cycles, to preventing global warming, to eliminating hazardous chemical releases. We have also introduced this style of product development—known as Design for Environment (DfE)—into our Image Information equipments like copiers. In the future we aim to expand this approach to all product domains.

### Konica Minolta's approach Consider the environment throughout our global operations and through the entire product life cycle.

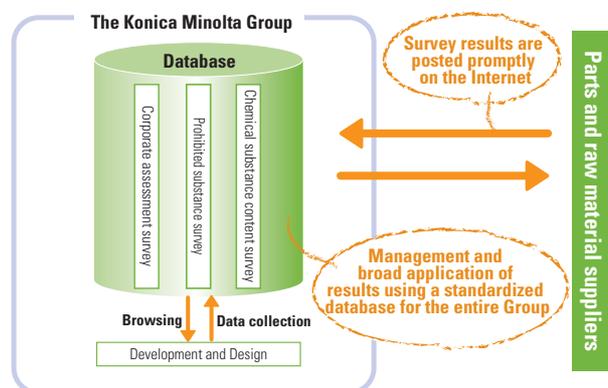
#### 1 We are working to expand our green procurement system globally.

In order to offer a truly environmentally sound product, we must be able to verify the quality of the raw materials and parts that go into that product. Every company in the Konica Minolta Group now carries out green procurement that gives priority to parts and raw materials with low environmental impacts. We have added Environment (E) as one of our standards, together with Quality (Q), Cost (C), and Delivery time (D), for comprehensively evaluating items for procurement. We implement two evaluation processes to verify the parts and raw materials we procure in and outside Japan. One is “Supplier Evaluation”, which evaluates the supplier itself, and the other is “Materials Evaluation”, which evaluates the materials included in the raw materials and parts. In order to promote reliable and effective green procurement, we will be conducting explanatory meetings with the suppliers in the countries and regions around the world, managing an information database and striving for internal sharing of information.

#### 2 Setting our sights on the entire product life cycle, we check for possible environmental impacts before developing a product.

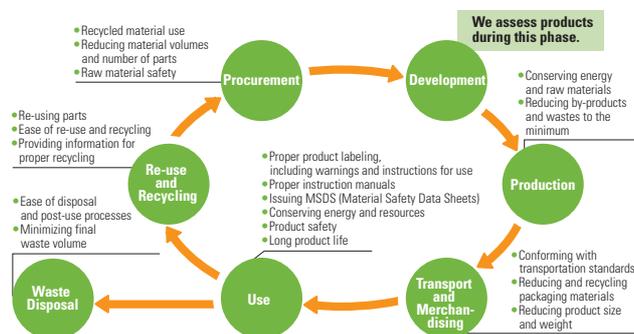
Konica Minolta carries out product assessments for all products. Product assessment is a method for strictly checking in advance, at the planning and design phase, the environmental load that will be imposed by a product throughout its entire life cycle. At the planning phase for new products, numerical targets for environmental goals are set for standard product assessment evaluation items. During the testing phase, we check whether goals are being met and carry out a final assessment before going into production. Only products that meet the goals go into the market.

#### Utilizing the Green Procurement System



This is a system for procuring parts for machine products, which uses component materials survey methods recommended by the Japan Green Procurement Survey Standardization Initiative (JGPSSI).

#### Product Life Cycle and Assessment

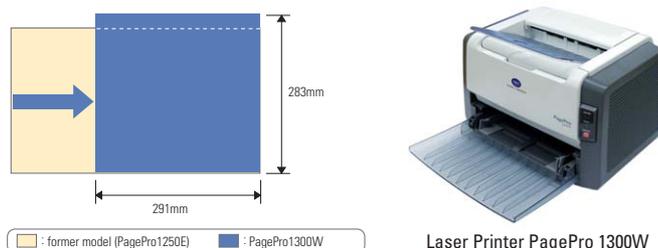


#### Resource Conservation through Designing

### Minimal use of resources—the key to resource recycling

Reducing the size and weight of products leads to resource conservation in manufacturing, energy conservation in shipping and a lighter environmental burden from waste disposal. The new PagePro 1300W laser printer brought out in February 2004 is 28 percent smaller and 13 percent lighter than the former model (brought out in August 2002).

#### Comparison of PagePro 1300W dimensions with the former model (side view)



Case Study: Single-Use Cameras

# Product design for re-use and recycling by standardizing parts and materials

When our single-use cameras are collected after use, they are sorted, dismantled and the parts inspected before being re-used or recycled. The re-use rate for parts scores about 90 percent, and if recycling is included, the rate is almost 100 percent.

■ Keeping recycling in mind – standardizing parts and materials

Except for the front cover and flash unit, standardized parts are now used for all models in the single-use camera, making them easier to re-use or recycle. To make recycling even easier, we have standardized materials as much as possible, for example by using the same kinds of polystyrene resins wherever plastic resins are used, except in the lens and flash unit panel.

Further enhancing re-use and recycling potential by designing with standardized parts

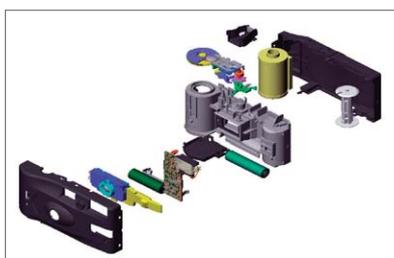
NEO ps 800	Goody 800	Goody BEST	Part
			Front cover
			Flash switch
			Flash unit
			Body unit
			Lens unit
			Spool
			Back cover

Standard parts

Standardized design for the single-use camera series (in the Japanese market)

■ Applying modular design, with re-use in mind

We use several module designs to increase the efficiency of disassembling, testing and reassembling parts that are being re-used. Thus, the product does not need to be completely disassembled, but into modular units, increasing efficiency.



Modular design for the single-use camera series

Other measures

Product Packaging Reduction

We are now selling “color film for business use” in simplified packaging on a trial basis. We have replaced the plastic canister with non-bulky polypropylene film wrapping, and no longer put each roll in its own box. We are using recyclable corrugated board for the outer box as well. As a result, volume has been reduced to two thirds, and packaging waste to one fifth of the original.



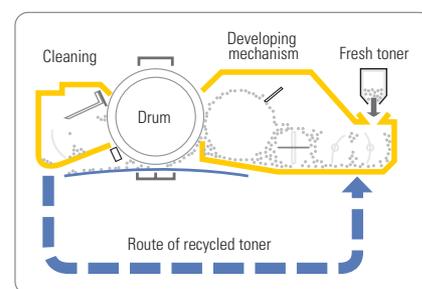
Case Study: Digital Multi-Function Devices

# Standardizing design for re-use and recycling to create products for a society with sound material cycles

To facilitate the re-use of parts and materials from end-of-life products, we have formulated “Manual on Design for Recycling” and checklist to standardize designs for recycling.

■ Internal re-use of toner

Our original technology, the Toner Recycling System, collects, recycles, and re-uses toner that is not transferred to the paper in the process of making a copy. Without this system, about 20 percent of the toner put into a copier goes to waste and is collected by service personnel during maintenance, but with this system, toner waste at the customer site is reduced to zero.



Our original toner recycling system

■ Standards for re-use: Parts standardization

In order to re-use parts from end-of-life products, new products should be capable of using the same types of parts as in old products. In designing new products, therefore, we promote re-use by adopting designs that employ “standard re-usable parts” such as motors, that can be used even in next-generation products.

■ Uniformity in outer casing plastics promotes closed material recycling

All outer casing parts of all multi-function devices are made of the same types of PC-ABS (polycarbonate acrylonitrile-butadiene-styrene) or PC-PS (poly carbonate-polystyrene) plastics in order to promote closed material recycling by recycling plastics from end-of-life multi-functional devices and using them in the manufacture of new ones. We were among the first in the industry to begin working to eliminate brominated flame retardants and antimony trioxide, and to globally expand the use of standardized plastic.



Outer casing parts made of PC-ABS



Voice

Green Procurement in China

The country’s rapid economic growth and large population exacerbate environmental problems in China. China’s natural capital is being depleted at an alarming rate. The difference between China and Japan is that in China, values regarding environmental protection are still in the developing stage, it is relatively difficult to involve people to be actively engaged in our Green Procurement. With increasing managerial knowledge of and attitudes toward technological change and environmental concern in China, I hope our company’s environmental performance will keep on improving together with our business partners in the future.  
(Lily Yu, Procurement Control Department, Konica Minolta Consulting (Shenzhen) Co., Ltd.)

# Group companies use and manage responsibly the chemicals we handle in the course of business.

## Our Approach

Konica Minolta employs a variety of chemicals in manufacturing film, photographic paper, developer and other products, and so we follow chemical industry standards in managing chemical substances. For example, even for the electronics and optics businesses in charge of cameras, lenses, and other devices, we practice voluntary controls in line with our chemical division's in-house standards throughout the entire Group.

## Results and Future Goals

We introduce as many as several hundred new chemical substances into our business every year. We employ in-house specialists who carry out risk assessments to determine the safety of these chemicals from the product development phase. Assessment results are shared with all companies on a database, and the appropriate way to use these chemicals is implemented in every possible setting. In future we will continue to improve our way of managing chemical substances by applying the latest knowledge in chemistry.

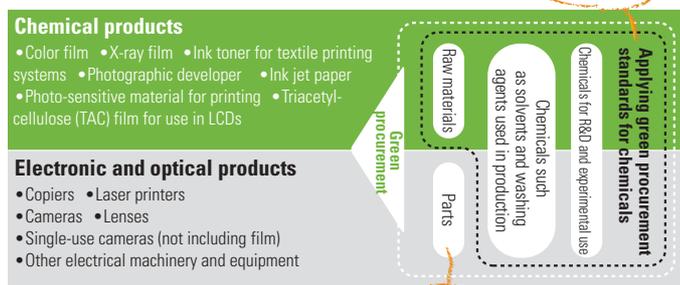
**Konica Minolta's approach** Apply rigorous standards to eliminate hazardous chemicals through all phases of product development.

### 1 We supplement green procurement of chemicals with safety verification testing

We have established a set of green procurement standards for purchasing chemicals materials that is separate from the one for purchasing parts. We have created rigorous sets of standards applicable not only to chemical raw materials used in producing film, photographic paper, developers, toner, but also for other chemicals used as solvents and washing agents. We take into consideration both the safety of the manufacturing process and the safety of the product itself.

**Substances listed in the database**  
**About 20,000 substances**  
 (Green procurement of chemicals)

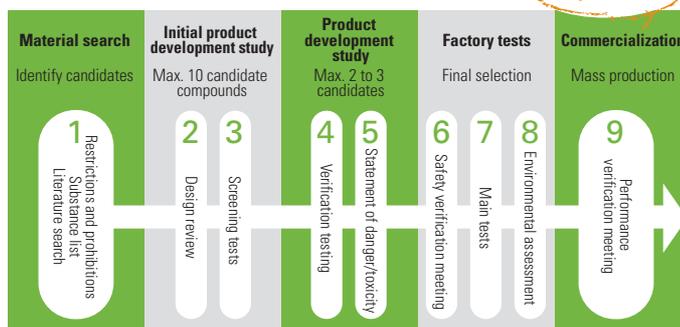
#### System for Green Procurement Including Chemicals



### 2 To ensure product safety, we are building a system for eliminating hazardous chemical substances from our products

We perform risk assessment of chemical substances using our Safety Verification System, an original Konica Minolta system that has been incorporated into the product assessment process. Before we introduce a new substance into a product, we make sure that it is not on our list of approximately 1,500 prohibited or restricted substances, and continue to reject any dangerous or hazardous substances through repeated safety testing undertaken at every stage of the process. Only substances that satisfy risk assessment standards are utilized.

#### Safety Verification System



#### Voluntary Reduction of Hazardous Chemical Use

To enhance safety management, we prioritize certain substances for reduction.

Among the chemicals used in the entire Group, we assign priority to reduce certain substances that have been judged as being high risk, based on their toxicity and the volumes being used. Since 1997 we have voluntarily set numerical targets for these priority substances, and with the cooperation of those actually working in product development, process design and manufacturing, we are acting to reduce the use of these substances.

#### The Master Plan for Safe Management of Chemical Substances

Reduced use targets		Reduction goals for atmospheric emissions	
<b>Benzene</b>	Completely phased out in FY2003	<b>Dichloromethane</b>	Total emissions in FY2006: 120t
<b>Formalin</b>	Complete phase-out in FY2004	<b>Ethyl acetate</b>	Total emissions in FY2006: 165.5t
<b>Heavy metals subject to RoHS directive (EU) (Pb, CrIII, Cd, Hg)</b>	Complete phase-out by FY2005	<b>Methanol</b>	Total emissions in FY2006: 50t
<b>Chloroform</b>	Complete phase-out by FY2010	<b>Methylethylene ketones</b>	Total emissions in FY2005: 22t
<b>1,2-Dichloroethane</b>	Complete phase-out by FY2010	<b>DMF</b>	Complete phase-out in FY2004

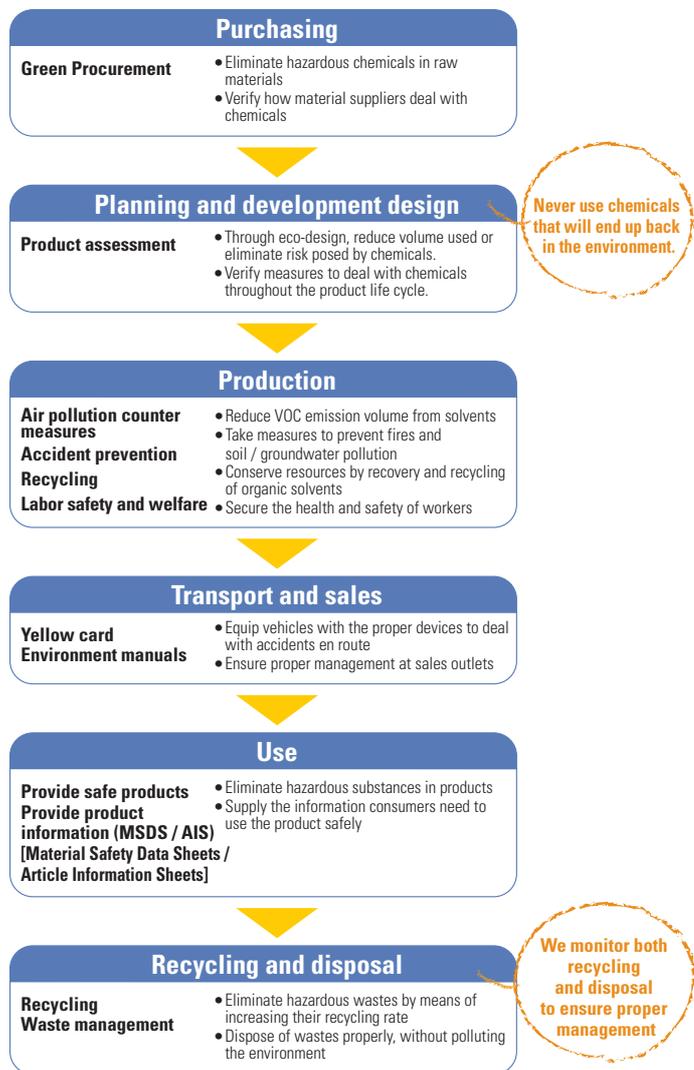
Our Approach Based on Responsible Care

We conduct integrated management of chemical substances throughout the product life cycle.

In our management of chemical substances, Konica Minolta applies the chemical industry's concept of Responsible Care.\* At sites where many chemical products are used, we give top priority to preventing chemical accidents and air and water pollution through every aspect of operations. Also, to ensure that our products are used properly, we take care to provide the relevant information to customers, including film developing labs and hospitals that develop X-ray film.

\* "Responsible Care" indicates the commitment by manufacturers to take voluntary action to maintain safety, health and a clean environment throughout the entire life cycle of chemical products.

Konica Minolta's Measures to Deal with Chemicals at Each Stage of the Product Life Cycle

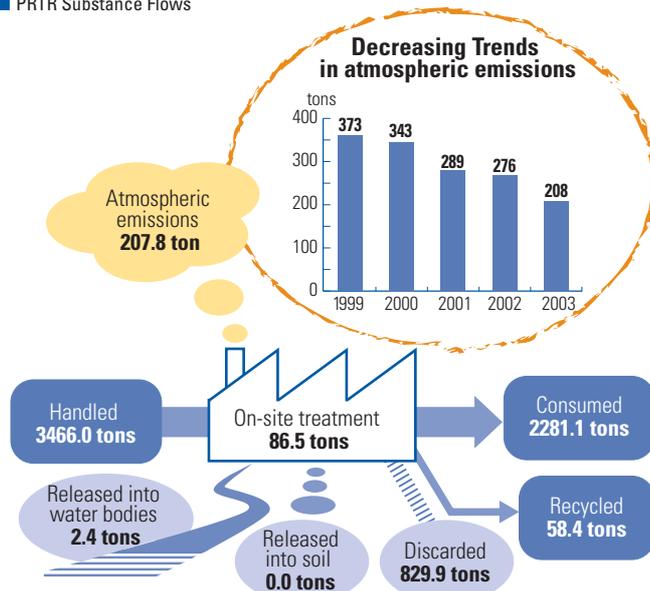


PRTR Initiatives

In dealing with chemicals, we put protection of the local environment first

A pollution release and transfer register (PRTR) system is a mechanism through which governments require the listing and publication of releases into the environment by businesses of chemical substances that might pollute the environment, as well as transfers of these substances off-site in the form of waste materials. As Konica Minolta works to reduce use of substances controlled under PRTR regulations, we are giving particular attention to reducing the atmospheric releases of such substances.

PRTR Substance Flows



For details, see p. 35

Our Approach to Soil and Groundwater Pollution

We have a system to perform soil and groundwater surveys and take swift measures to deal with pollution if problems are identified.

Since 1996, we have performed voluntary soil and groundwater surveys at sites that have utilized substances that could pollute the soil or groundwater. Though there were no new incidents of pollution or pollutant release in fiscal 2003, monitoring and cleanup activities continue at sites where such pollution has been reported previously.

Sites and affiliates where cleanup and monitoring continue

Tokyo site (Hachioji block), Itami site, Sakai site, Osakasayama site, Nankai Optical Co., Ltd., Toyohashi Precision Products Co., Ltd., Konica Minolta Opto Products Co., Ltd., Konica Minolta Supplies Manufacturing Co., Ltd., Okayama Minolta Seimitsu Co., Ltd.

Other measures

Supplying Information through MSDS and AIS

We provide customers with Material Safety Data Sheets (MSDS) containing information about hazardous or toxic properties of our chemical products as well as information on first aid treatment. We also offer information by providing Article Information Sheets(AIS) for non-chemical supply products such as photographic film.

Supplying Information Pertinent to Transport and other Accidents

Trucks that transport film developer and other chemical products carry a yellow card, which provides information about the appropriate steps to take in case of an accident en route, as well as information about first aid measures and a 24-hour emergency hot line contact number.

Managing PCBs

PCB waste materials and items containing PCBs such as ballasts for fluorescent lights, etc., are stored under strict controls, and clear records are kept of the storage manager, the types and number of stored items and conditions of storage for each site.

\*Stored PCB waste materials originating from the dismantled factory of Konica Gelatin Corp. have been transferred to the Odawara industrial site



VOICE

**Qualification to Deal with Poisonous and Deleterious Substances**  
 My main jobs are to manage sales office and to ship high-quality products with the cooperation of a related company located at the same site. Although I had to prepare for the test of this qualification during intervals in my regular work, and I had experienced some setbacks, I have finally passed the test to acquire the qualification from my efforts. I hope to put the qualification and confidence I have gained to work on a daily basis in my job.

(Kazuo Hirai, Niigata Branch, Konica Minolta Photo Solutions Co., Ltd.)

# We calculate and are working to reduce CO<sub>2</sub> emissions for each product at each stage of the life cycle.

## Our Approach

Preventing global warming is an important challenge for the manufacturing industry today. Konica Minolta feels it must take responsibility not only for the energy it consumes in plants, but also for the energy needed to manufacture the raw materials and in the transport, use, disposal and recycling of the goods produced, and is taking measures accordingly.

## Results and Future Goals

After re-organizing our business structure, we undertook a company-wide study to standardize CO<sub>2</sub> emission indices and premises, and confirmed the data totals for each site up to fiscal 2003. We then re-calculated CO<sub>2</sub> emission volumes for each of our business companies, covering the entire life cycles of their products. We hope to use this data to promote further activities on the dual basis of "site targets" and "Group LCA targets".

**Konica Minolta's approach** Determine each product's CO<sub>2</sub> emission load, and devise appropriate measures to address them.

**1** We calculate CO<sub>2</sub> emitted during each stage, from raw material, through to manufacture, use and disposal. Examining the whole life cycle of each product leads to effective reduction measures.

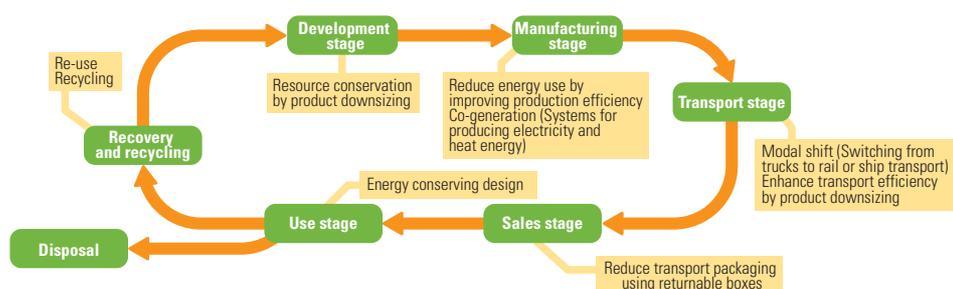
Konica Minolta manufactures a wide diversity of products, so blanket measures to reduce CO<sub>2</sub> emissions have a limited role. Instead, by using the LCA (life cycle assessment) method, we can grasp how much CO<sub>2</sub> is being emitted at each stage of a product's life cycle, and then target the stages at which large amounts of CO<sub>2</sub> are being emitted. By devising CO<sub>2</sub> reduction measures tailored to each product, reductions can be efficiently achieved.

For example, copiers emit the most CO<sub>2</sub> during use by the customer, so energy conservation dur-

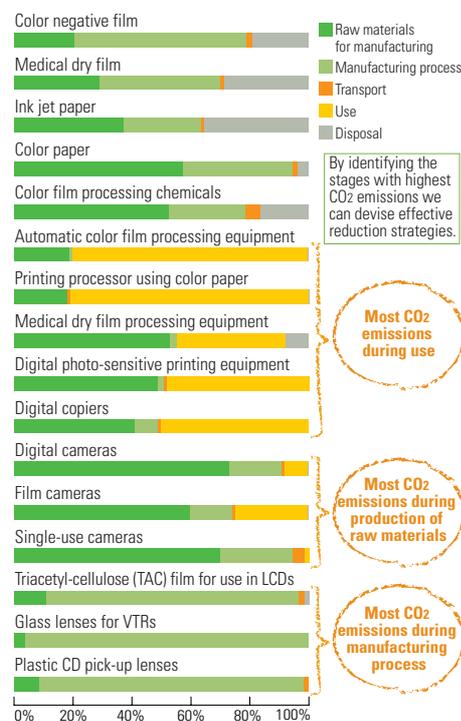
ing use is the main issue for copiers, and we are working to create energy efficient designs. In the case of triacetyl-cellulose (TAC) film for use in LCDs, panels and CD pick-up plastic lenses, most of the CO<sub>2</sub> emissions occur during the manufacturing process, so energy conservation in the plant is the main issue for these products.

By taking appropriate measures for each product in this way, we are fulfilling our responsibility to help prevent global warming.

### Example of Product Life Cycle and CO<sub>2</sub> Reduction



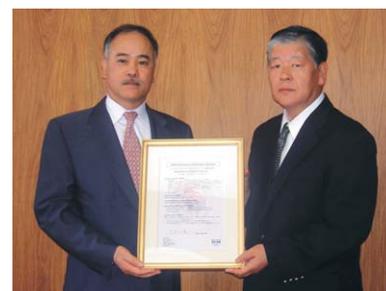
### Ratios of CO<sub>2</sub> Emissions during Each Life Cycle Stage of Major Products



Participation in the "Prototype Project of Voluntary Domestic Emissions Trading Scheme"

An independent body has verified our greenhouse gas emission volumes.

We participated in the Japanese Ministry of the Environment's "Prototype Project of Voluntary Domestic Emissions Trading Scheme for Fiscal Year 2003". In line with this project, total 25 sites of our Group companies and affiliates in Japan calculated greenhouse gas emission volumes for fiscal 2003, and underwent a third-party verification process. At the same time, the second co-generation system installed at our Tokyo site has been recognized as a greenhouse gas reduction project under the government scheme.



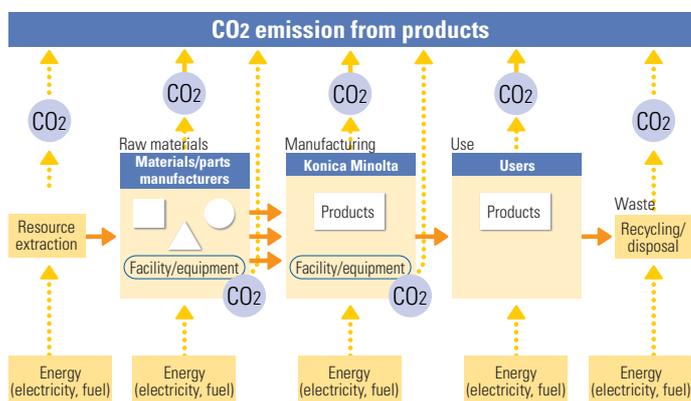
Presentation of Verification Opinion from BSI Japan, an independent verification body.

Report of Group CO2 Emissions

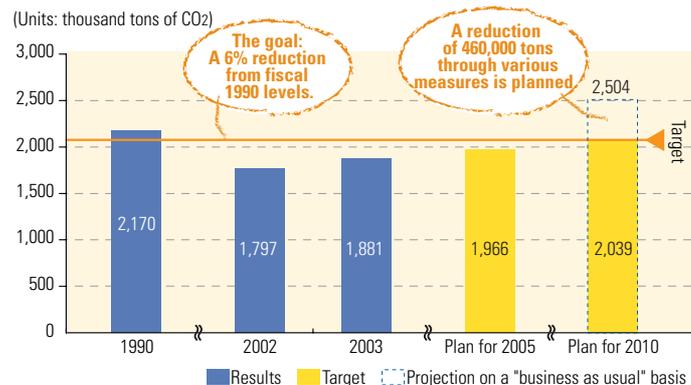
Targets have been set for business companies to reduce total CO2 emissions by 6% compared to fiscal 1990 levels.

We are working hard to achieve targets for the year 2010 for the entire Group, from the perspective of both a "Group LCA target" and "Site targets," and under the guidance of the Global Warming Prevention Committee, part of our ISO 14001 based system. Our group LCA target is to achieve a 6% reduction (compared to fiscal 1990) in total emissions (CO2 equivalent) collectively by the entire Group by 2010. Our initiatives have three features: consideration of products in each and every product category over the course of their entire life cycle, targeting not only domestic but also overseas operations, and targeting all greenhouse gases. We have adopted and aim to achieve this target collectively.

■ The Konica Minolta CO2 emission calculation method based on the concept of product LCA



■ Trends in CO2 emission volumes for the entire Group calculated from entire product life cycles

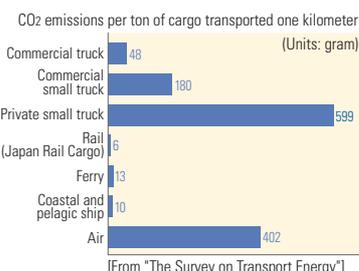


**CO2 emissions by the entire Group (fiscal 2003)**  
**30,000 tons reduced**  
 (compared to "business as usual")

Other measures

Initiatives to Achieve CO2 Emission Reductions in Transport

By minimizing the distances traveled by trucks, we are endeavoring to reduce emissions of both greenhouse gases such as CO2 and air pollutants that cause acid rain. To achieve this we are promoting a modal shift away from long-distance truck transport to transport by rail and sea. At present, 80% of transport between the Kanto district (around Tokyo) and Sapporo



Initiatives to Reduce CO2 Emissions from Manufacturing

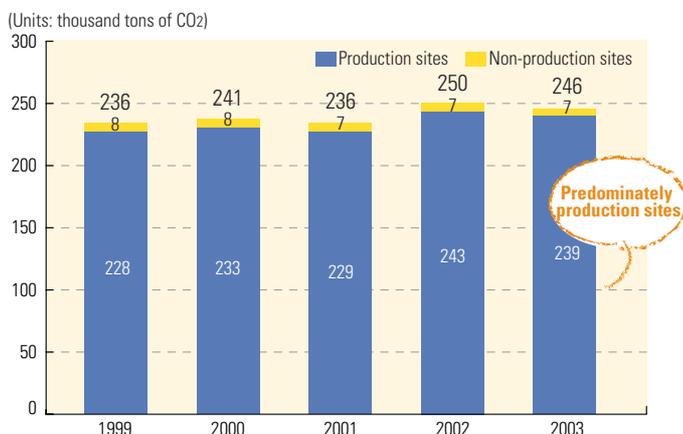
Energy conservation is the main issue at production sites.

"Site targets" have been set with a view to encouraging domestic implementation of the Kyoto Protocol. Site targets for 2010 have been set for six gases (CO2, CH4, N2O, PFCs, HFCs, SF6) for our Japanese sites, including plants, research institutes, and offices. Energy use at production sites in particular is far greater compared to office sites, and energy conservation measures are being introduced, including installment of co-generation systems and cell production systems, as well as increasing production efficiency.



Cell production system contributes to energy conservation at Sankei Precision Products Co., Ltd.

■ Trends in direct emissions of greenhouse gases by domestic sites



Initiatives for CO2 Emissions Trading within the Group

We are considering intra-Group trading to accelerate CO2 emission reductions.

Konica Minolta is now planning to start intra-Group CO2 emissions trading. In fiscal 2003, we prepared for emissions trading using a "register" for accommodating non-monetary transfers. At present, costs for reducing one ton of CO2 emissions differ by a factor of five or more among the Group. By utilizing the trading system, we hope to achieve an accelerated rate of CO2 reduction by the Group as a whole in an economical way.

(in Hokkaido) is by rail and sea, while mid-distance transport, such as between Kanto and Sendai, Kanto and Nagoya and Kanto to Hiroshima, is mainly by rail. With a view to reducing transport costs as well as the distances traveled by truck, we are consolidating distribution centers, pooling shipments between distribution centers, and using the return trip from deliveries to recover end-of-life copiers and other products.

**Switching Boilers from Heavy Oil to Natural Gas**

The trial calculations of expected results in terms of costs and the environment were not easy, and neither were the price negotiations. However, after we made the shift, we succeeded in reducing CO2 emissions by 816 tons. We also reduced NOx emissions by 45% and SOx emissions by over 90%, and saved 75 hours of work that were formerly spent ordering and receiving heavy oil. In future I hope to work more actively in reducing environmental burdens, while taking measures to prevent losses from waste heat.

(Masami Nakamura, Quality and Environment Department, Konica Minolta Supplies Manufacturing Co., Ltd.)

# We are working towards “zero waste disposal” at production sites by turning wastes into resources.

## Our approach

To ensure that we get real results from efforts to turn wastes into reusable resources and to eliminate the amount going to the landfill, we must reduce the potential for wastes to be dumped illegally by contractors, and need a long-term approach that considers economic viability. In this regard, Konica Minolta includes risk management and economics in our plans for waste reduction. Studies have also been conducted regarding secondary residual left over after resource recovery.

## Results and future goals

“Zero waste disposal”-related activities have been included as an important item in our mid-term policy, and we hope to achieve “zero waste disposal” at all 22 Japanese production sites by 2004. A Waste Management Committee has also been established within the multi-site ISO 14001 environmental management system that serves all companies in the Group, and a management system is being devised to deal with all wastes, including those generated from non-production sites. We hope to extend these “zero waste disposal” activities to overseas production sites in future.

**Konica Minolta’s approach** We include cost reduction as a criteria of achievement of “zero waste disposal.”

### 1 We believe “zero waste disposal” activities will not last unless it is economically viable.

Uneconomical policies do not survive for long. A consideration of economics is essential if resource recovery is to be sustainable. To ensure that “zero waste disposal” does not end up as a short-term effort, Konica Minolta also considers cost reduction among the criteria for achievement of “zero waste disposal.”

**Results of “zero waste disposal” activities**  
**Approximately 100 million yen**  
 (each year)

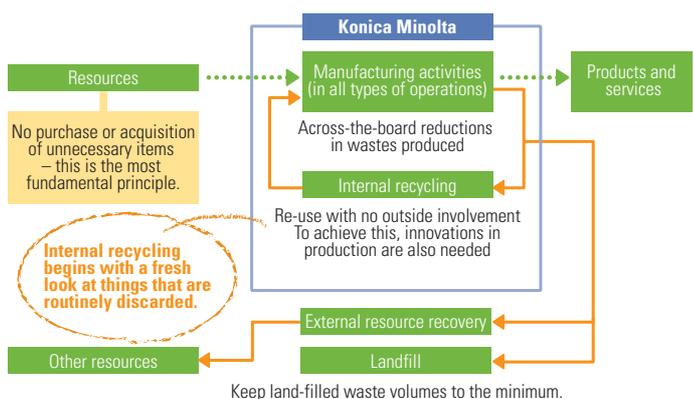
#### Konica Minolta Criteria Requirement for “Zero Waste Disposal” (Level 1)



### 2 Innovation in production processes are also necessary to reduce the amount of wastes produced.

Konica Minolta has set up numerical targets for costs as part of its “zero waste disposal” standards. To achieve these targets, not only must the amount of materials for disposal be reduced and rates of resource recovery increased, but the amount of materials other than products—that is, wastes coming out of the production process—must also be reduced. Measures to ensure effective in-house use of waste products must also be adopted.

#### Main Points of our “Zero Waste Disposal” Activities

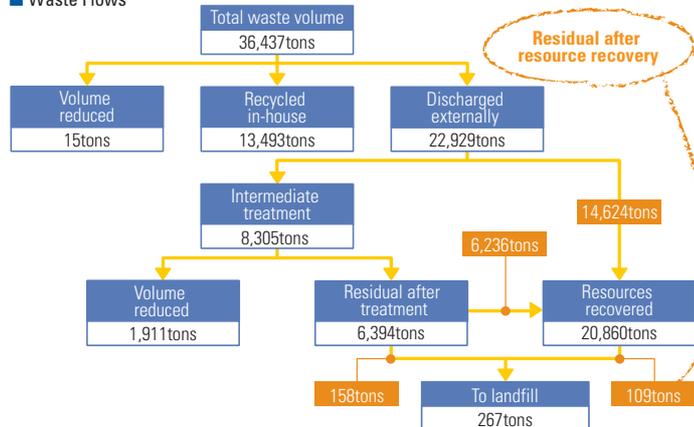


#### Resource Recovery Report for the Entire Group

### We are promoting resource recovery at all production sites, and reducing final waste disposal volumes.

In pursuing resource recovery, the first priority is given to in-house recycling of leftover materials, produced in the manufacturing process. To facilitate this, we are conducting research and development of new recycling and production technologies. Also, to reduce final disposal volumes, we thoroughly sort wastes and are working to secure recycling routes. For difficult-to-treat wastes, we line up several recycling routes so that the recycling flow will not be disrupted if one of them is stopped.

#### Waste Flows



Report on "Zero Waste Disposal" Achievements

"Zero waste disposal" was achieved at 14 of the total 22 production sites in Japan.

In the process to confirm the achievement of "zero waste disposal," first an audit is conducted of documentation regarding legal compliance, contracts and sustainability, and after the audit report is presented and verified at an "achievement confirmation committee" meeting at the site, the Group's Director Responsible for Environmental Management approves the report. In fiscal 2003, four more sites achieved Level 1 criteria for "zero waste disposal". With the aim of ensuring progress and sharing information on "zero waste disposal," a monthly meeting is held by the persons responsible at key sites, and once a year a "Conference of Zero Waste Disposal Managers" is held internally for all Konica Minolta Group companies in Japan.

Sites that achieved "zero waste disposal" in fiscal 2003

Konica Minolta Kofu achieves "zero waste disposal" with new recycling routes

At the Kofu site, developing new resource recovery routes for coating solvent and packaging material allowed the site to achieve a 99.98% resource recovery rate and a 0.02% final disposal rate. This was the first site to receive certification of Level 1 "zero waste disposal" achievement following the corporate integration. The site has started working towards further reducing waste volumes and costs through in-house recycling of coating solvent.



Konica Minolta Mizuho site/ Sankei Precision Products Co., Ltd. discards fewer pallets

A large number of pallets used to import information technology equipment from China were formerly discarded, but with the establishment of a waste reduction committee, various measures were implemented, including a change in raw materials being used. The pallets are now re-usable, resulting in a significant reduction in the amount of waste generated.



Toyoashi Precision Products Co., Ltd. recycles raw materials for molded parts in-house

Some of the types of plastic left over in the process of manufacturing parts for office equipment are expensive, and technology was developed especially for recycling these materials with high raw material cost in-house, resulting in significant cost reductions. Each type of waste plastic that cannot be recycled in-house is pulverized at the site and then sold. Future goals include further promoting in-house waste plastic recycling and reducing the amount wasted during the manufacturing process.



Miki Minolta Industries Co., Ltd. recycles toner in-house

In the past, during the bottling process of toner powder for copiers and printers, a considerable amount of powder fell outside of bottle and had to be discarded. In-house recycling of this powder became possible, however, after we developed a cyclone to recover it, tested the quality of the recovered material, and designed a re-insertion line. As a result, significant reductions were achieved both in the amounts discarded and in the cost of purchasing raw materials.



Other measures

Initiatives for Information Sharing Throughout the Group

Information has been collected in a database not only about waste management contractors, but also about waste management legislation, illegal dumping cases, and other waste-related issues. This database is being managed by a special team.

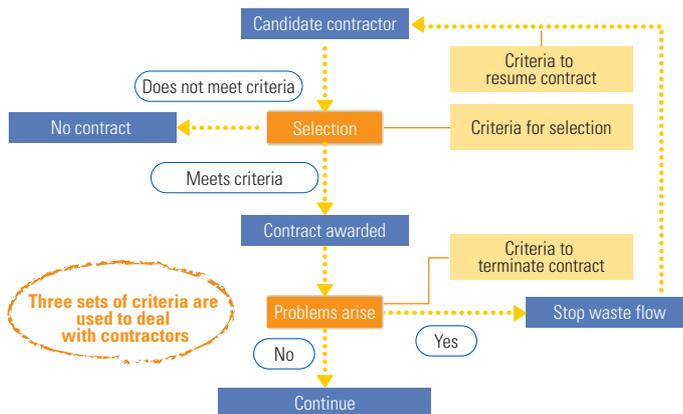


Initiatives for Proper Waste Disposal

We are improving operations by integrated handling and Group-wide sharing of information on waste management contractors.

With more precise categories into which we sort wastes, the number of industrial waste management contractors used by companies in the Group has skyrocketed. Thus, we have established contractor selection criteria for the entire Group. By using an integrated database on waste contractors, we can select reliable contractors and avoid risks.

Industrial Waste Disposal Contractor Selection Criteria

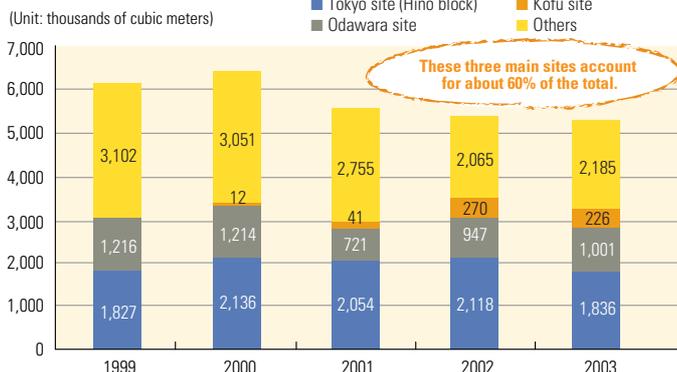


Initiatives to Reduce Water Resource Use

Reducing water use is an important local challenge for our production sites.

Chemical plants place much greater loads on the environment than assembly factories. The amount of water used is particularly striking; chemical plants account for 80% of the total water consumption of our Group production sites in Japan. The Tokyo, Odawara and Kofu production sites have been requested by local residents to reduce their use of groundwater. These sites have established targets for reducing water use and are working proactively towards these target.

Trends in Water Use at Domestic Production Sites



Initiatives Aimed at Furthering "Zero Waste Disposal" Goals

Sites that have achieved Level 1 in "zero waste disposal" are now working towards the Level 2 goal of reducing waste generated per unit of sales by over 30% compared to fiscal 2001.

**Promoting In-House Recycling**  
 We are promoting "total productive maintenance" (TPM) together with "zero waste disposal." All employees are working hard to achieve our goals and have raised their awareness about the environment and the need to lower costs. As we strive to be a company that is kind to the global environment, we are promoting even more in-house recycling and reduced waste generation.

*(Yagi Ichirou, Production Division, Maintenance Department, Miki Minolta Industries Co., Ltd.)*

# We are working toward improvements, by publicly announcing our goals and progress and engaging in dialogue.

## Our Approach

It is increasingly important for corporations to engage in information disclosure and communication to co-exist with society. Konica Minolta views everyone as partners and feels it is important to have open, accurate information sharing, to build trust through mutual understanding, and to keep a receptive attitude at any time. This is why we make an effort to release information that is concrete and clear.

## Results and Future Goals

By promoting communication, the entire Konica Minolta Group has enhanced its relationship with all stakeholders. Releasing information about our environmental measures functions as a way of checking the appropriateness of our activities. For example, discussions with local communities identified water use reduction as an important matter. In future, we plan to increase opportunities for mutual communication through discussions and our Internet website.

**Konica Minolta's approach** We promote information disclosure at the Group level, company level, and site level.

### 1 For our company to have high visibility, we must strive for accurate, clear information disclosure.

To be accountable as a corporation, we feel it is important to release information on the environmental aspects of our products, the environmental loads posed by our production sites, and the measures we are taking to reduce these loads. We continue to promote our activities through listening to the opinions of those outside the company.

In releasing information, we endeavor to use comprehensible language and include concrete details with quantitative data. In order to deepen understanding and trust, we make a point of maintaining a high level of information disclosure through our website, and through publishing reports and holding community environmental briefings.

As a company that offers chemical products, we are studying how to make the information we release about chemicals easy for anyone to understand, and hope to put our results to practical use.

#### Information disclosure through report publication



The Konica Sustainability Report 2003, The Minolta Environmental Report 2003, and Site Reports (Environmental reports by production sites) for fiscal 2003.

The Kobe and Kofu sites started publishing reports in fiscal 2003.

#### Information disclosure through the Internet



The initial posting of environmental pages on our website coincided with the establishment of Konica Minolta Holdings, and the page was renewed in March 2004. <http://konicaminolta.com/environment>



PDF files on environmental protection achievements at production sites in Japan. Records of measurements of air, water, noise and vibration at manufacturing sites and affiliates are disclosed at our Japanese website.

## Participation in the "Eco Products 2003" exhibition (Tokyo)

In December 2003, we participated in the largest environmental exhibition in Japan, "Eco Products 2003" held at the Tokyo Big Sight trade show center, where we were able to widely publicize the key words adopted by the newly-created Konica Minolta Group for our environmental management: "Global, Group-Wide, and Life Cycle." We introduced the environmentally sound features of our copiers, digital cameras and the single-use cameras. As an example of measures being taken at production sites, we introduced efforts being made at the Odawara site. One of the key attractions of this exhibition for us was the opportunity to meet many participants directly and exchange views. We actively participate in local environmental fairs and events because of this opportunity to

engage in mutual communication, while giving participants the chance to see our activities.



Konica Minolta booth at Eco Products 2003 exhibition



# Konica Minolta and the Society

Konica Minolta's business success involves the participation and support of our stakeholders across the globe. We are firmly committed to earning their long-standing trust by keeping in close dialogue, while we strive to fulfill our responsibilities as a corporate member of society.

## Customer Relations

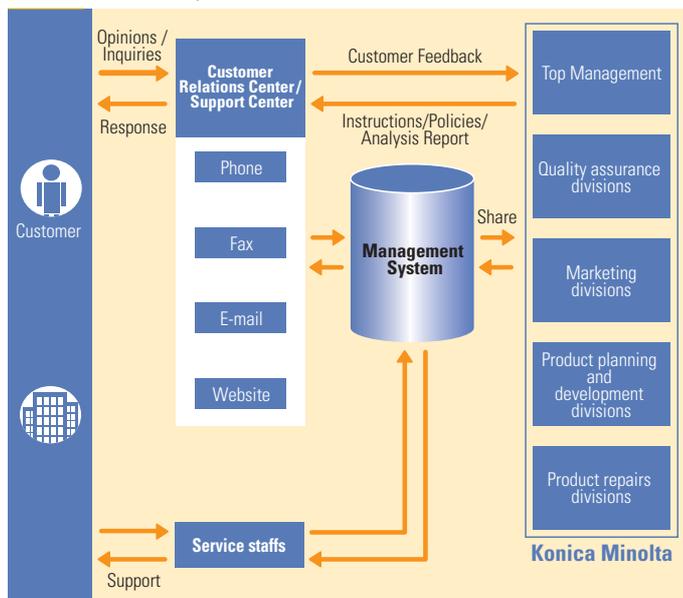
At Konica Minolta, we believe that providing customers with excellent products and services enriches society, and see this as one of our social responsibilities. Our attention to society is evidenced by our many efforts in this area, including close communication with customers, a strong quality management system, and the promotion of universal design.

### Working to Raise the Level of Customer Satisfaction

## Using customer feedback to provide better products

The feedback from our customers about Konica Minolta Group and our products and services is both valuable and necessary as we strive to develop and provide better products to customers. Customers' opinions and comments are received through variety of methods including our Customer Relations Center, Support Center, the company website and e-mail contact. This feedback is then passed along quickly to the Repair, Quality Assurance, Marketing, and Product Planning and Development divisions where it becomes a valuable resource in our efforts to build better products. Customer satisfaction survey results are likewise incorporated into efforts to enhance our products and services.

#### Customer Feedback System



### Working to Raise the Level of Customer Satisfaction

## Careful management of customers' personal information

At Konica Minolta, we have taken exhaustive steps to strengthen our management of customer information and carefully protect personal information. Customers' personal information is often received in the course of responding to inquiries, handling requests for company literature, and when registering product users in order to provide support information. Our Compliance Manual stipulates that when customers provide us with personal information they must be informed of how it will be used, that this information is only to be used for said purposes, and that this information may not be disclosed or otherwise provided to any third parties. These rules ensure that personal information is carefully managed and that information leaks are avoided.

## Quality Management

## Ensuring the quality of our products

The "Quality Management Policy of Konica Minolta" has been established to ensure the satisfaction and trust of our customers. All of Konica Minolta's production sites worldwide operate quality management based on ISO 9001 standards. The Quality Committee, which oversees quality management for the Group, has promoted a uniform quality system in all Group companies and subsidiaries worldwide. This system involves the design and production of safe products as well as accurate and clear product labeling on safety and use.

## ■ Quality Management Policy of Konica Minolta

**The Konica Minolta Group strives for the highest degree of customer satisfaction and trust, by putting the customer first and giving a high priority to the quality of products and services.**

**Our basic approach is to make continuous quality improvements, based on quantitative measurement and analysis of accurate data.**

1. Seeking the best customer satisfaction in our industry
2. Anticipating customer needs
3. Global quality system
4. Quality management of products and services throughout the life cycle
5. Continuous enhancement of quality assurance processes
6. Minimizing product quality risks
7. Disclosure of product safety information

## Addressing Quality Problems

Quality-related problems are quickly addressed and corrected in line with Konica Minolta's "customer first" philosophy. Any product quality-related problem that occurs anywhere in the world is swiftly reported to business companies in Japan where the cause is studied and an effective program to fix the problem is put in place. We work hard for strong coordination among Group companies, to constantly improve product quality and safety.

## Universal Design

## Promoting universal design concepts in products.

Konica Minolta actively incorporates "universal design" in order to provide products that are user-friendly for everyone, including the elderly and people with disabilities. The principles of universal design are being used in many industries, and we have developed our own guidelines for information technology equipment that is often shared by a wide range of people in office environments.

## Information Technology Equipment

Universal design assessment is conducted repeatedly by having users operate the equipment, after which we then make fine adjustments to improve product handling. The end-results are products that are easier to operate (see below).



Paper tray can be easily held from either a sitting or standing position



Angle-adjustable control panel for people viewing from a low angle

## Shareholder and Investor Relations

Konica Minolta strives to maximize company value and meet the expectations of shareholders and other investors. Through Investor Relations activities we are proactive in disclosing information in order to maintain a fair and strong relationship with shareholders and investors and to have them better understand the Group's operations.

## Investor Relations

## Maximize corporate value through investor relations activities

Konica Minolta's investor relations activities focus on providing shareholders and other investors with accurate information in a quick and fair manner. The IR site on the Company website contains updated annual reports and business reports. It also contains strategies and financial data in both Japanese and English. With 36% of Konica Minolta's shares held by foreign investors (as of March 31, 2004), teleconferences with foreign investment analysts as well as presentations overseas are integral parts of the investor relations program.

<http://konicaminolta.com/investors>

## ■ IR Information materials



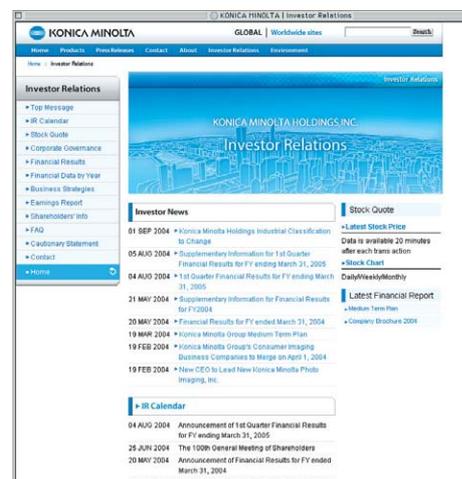
Annual report



Company brochure



Business report



IR section of website

Voice



## Meetings with Foreign Investors

During fiscal 2003 I participated in investor conferences held in New York, London, and Hong Kong. We held investor meetings attended by over 100 investment companies, and we are planning for individual visits in fiscal 2004.

(Naomichi Yamada, Investor Relations Department, Corporate Strategy Division, Konica Minolta Holdings, Inc.)

# Community Relations

Konica Minolta is committed to building strong ties with local communities as the foundations of our relationship with society at large. We want to be a welcome member in the communities in which we operate, so at our Group sites we hold events to get better acquainted with the community and its residents, as well as look for ways to offer our assistance. We carry out a wide range of community service activities, including programs having to do with imaging, which we consider the strength of Konica Minolta.

## Working Closely with Local Residents and Authorities at Group Sites

Konica Minolta works with local governments and bodies to hold community programs.

At our sites, we hold a wide range of activities with the local community, ranging from social events to emergency response coordination. At sites such as the Tokyo site and the Odawara site, regular meetings are held with local residents' associations to discuss emergency response planning, environmental issues, and other relevant matters. At the Tokyo site, a telephone contact network has been established to allow direct contact with the heads of neighboring residents' associations for fast, accurate dissemination of information to local residents. In addition, agreements have been made with local authorities to open up site grounds to serve as a large evacuation center during times of emergency such as natural disaster.



The Konica Minolta Firefighting Unit practices at the Tokyo site.

## Local Community Activities

Konica Minolta holds clean-up days and other events to deepen ties with local residents.

At Konica Minolta, we hold beautification campaigns, clean-up days, and other events to deepen ties with the local communities in which we operate. At the Sakai site, we conduct an "Adopt-a-Road" program to clean up and add greenery to surrounding roads, while also participating in the Doi River Festival to get to know local community members better. Likewise, the Tokyo site holds an annual local cherry blossom festival as a way to show our appreciation to the community. We also promote culture and sports in local communities. Konica Minolta employees regularly give seminars at local photography club meetings, and local sports groups are allowed to rent the company gymnasium and fields for sports activities.



Each spring local residents are invited to the Tokyo site's cherry blossom festival

## Giving Employees Time Off for Volunteer Work

Konica Minolta gives employees days off or leaves of absence to engage in volunteer work as part of the Company's efforts to encourage and support employees in these efforts and in recognition of their individual roles as citizens of the community. Five employees took volunteer leave during fiscal 2003.

## Community Service

Contributing to society in the environment, culture and sports

Konica Minolta engages in community service activities to deepen ties with stakeholders and to contribute to a better tomorrow. These activities include photo contests —using our expertise as an imaging company— and participation in programs put on by local non-profit organizations.

### Contributing through Photo Exhibitions and Photo Contests

Konica Minolta contributes to nature conservation by co-sponsoring photo contests such as the Konica Minolta Tancho (Japanese Crane) Charity Photo Contest. Also, Konica Minolta Plaza in Tokyo helps to promote photography through the Foto Premio programme, which supports the work of young photographers, and through many photo exhibitions.



Konica Minolta Tancho (Japanese Crane) Photo Contest



Konica Minolta Plaza

### Participation in Programs held by Non-Profit Organizations

Konica Minolta is an active member in local non-profit organizations. We help support the Sakawa River Watershed Conservation Committee in its efforts to preserve the water quality of the Sakawa River and to protect its water resources, as well as a woodland maintenance and tree planting program run by the Japanese Alpine Club Nature Conservation Committee's "Takao Forest Society."



"Fun Family Photography Class" at the Sakawa River



"Takao Forest Society" tree planting festival

### Sports Promotion and Education

Konica Minolta is a special sponsor of the Summer Children's Golf School held by the Ladies Professional Golfers' Association of Japan. Our track and field team was awarded the 2004 Sports Group Award from the Tokyo government partly in recognition of athletes offering jogging classes to elementary school children and other local residents.



Summer Children's Golf School



Jogging class

### Contributing to Astronomy and Science Education

In fiscal 2003, company personnel lectured at the Hino Citizens College Children's School College science course. Also through our Konica Minolta Planetarium Co., which makes planetarium equipment, we contributed to astronomy and science education by supplying science museums and participating in the Manabipia Lifelong Learning Festival, held by Japan's Ministry of Education, Culture, Sports, Science and Technology.



Hino Citizens College Children's School



Planetarium

### Konica Imaging Science Promotion Foundation

This foundation aims to promote scholarship and contribute to the advancement of culture through imaging science research and development and the support of photo-related cultural activities. It accepts innovative imaging science-related research proposals and grants the Konica Imaging Sciences Award to those with novel ideas.

## Community Service Overseas

## Contributing to countries and local communities around the world

Being a responsible corporate citizen is important to Konica Minolta and we engage in community service where we do business around the world.

### ■ One of Konica Minolta's U.S. Manufacturing Subsidiaries was Awarded the 2003 Spirit of North Carolina Campaign Award



In recognition of the donation of over \$100,000 by the company and its employees during 2003, Konica Minolta Manufacturing U.S.A., Inc. received the 2003 Spirit of North Carolina Campaign Award, which is given annually to companies and employees who actively contribute to the local community.

### ■ The British Museum's Konica Minolta Gallery



The Konica Minolta Gallery located in the British Museum (London) features a variety of Japanese arts and handicrafts as well as Japanese historical documents. The gallery was named the Konica Minolta Gallery to recognize our support in the building of the museum's Japanese Galleries.

### ■ Commemorative Graduation Photographs to Chinese Children



Konica Minolta has joined hands with the Qingzhou Board of Education in China's Shandong province to present graduating elementary and junior high school students with commemorative graduation photographs each year since 2000.

### ■ Presenting Konica Minolta's Green Procurement at International Forum



A representative of Konica Minolta Precision Engineering Malaysia Sdn.Bhd., a manufacturing subsidiary, was invited by Malaysia's National Productivity Corporation (NPC), a government organization, to deliver a speech about Konica Minolta's green procurement activities, at the International Forum on Green Productivity to Enhance Competitiveness and Sustainability held by the NPC, the Asian Productivity Organization (APO) and other institutions.

### ■ German Subsidiary Donates to Promote Sports for the Disabled



Konica Minolta Business Solutions Europe GmbH, our German information equipment sales subsidiary, was awarded first place in the "Visitor Friendliness Contest," and donated the prize money as well as additional money to RSG Langenhagen 82 e.V., a local public organization that promotes sports for disabled persons.

### ■ Chinese Subsidiary Donates 100,000 Yuan to Combat SARS



In May 2003, Chinese manufacturing subsidiary Konica Minolta Opto (Dalian) Co.,Ltd. donated 100,000 yuan to the Dalian city government for fighting the spread of SARS, a major health concern in China at the time. No Konica Minolta Group employees were infected with SARS during the outbreak.

# Relations with Suppliers and Contractors

Businesses from whom we procure supplies and materials as well as those we contract to work for us are key Konica Minolta stakeholders. We seek fair and transparent dealings that benefit both sides.

## Our Position on Business Dealings

### Fairness and transparency in business dealings

In selecting companies to do business with, Konica Minolta supports the principle of free competition, and thereby selects its suppliers and contractors in a fair and transparent manner, with equal consideration given to bids from both domestic and foreign companies. The Konica Minolta Group Conduct Guideline keep employees aware of the need to maintain sound and appropriate relationships with suppliers and contractors, and prevents any kind of unlawful actions prohibited under Japan's legislation relating to subcontracting.

#### ■ Relations with Suppliers and Contractors (Excerpt from "Conduct Guideline")

#### Konica Minolta strives for complete compliance with the following guidelines.

- We shall comply with anti-trust and competition laws, and conduct transactions in a manner that is fair, transparent and promotes free competition.
- We shall not unfairly discriminate between domestic and foreign suppliers, and shall conduct procurement and purchasing transactions in a manner that is fully transparent.
- We shall not develop business relations in a manner that transgresses the boundaries of socially- or internationally-accepted standards.
- We shall not solicit or accept business entertainment beyond the level of socially-accepted standards.
- We shall not participate in any illegal or unfair transaction even if requested by any customer or supplier.
- We shall refrain from making any personal investment or loan to any supplier or customer. However, this restriction shall not apply to the purchase of publicly traded stock.
- We shall not place a purchase or sale order for any publicly traded stock or security of a company when we possess insider information of a material nature concerning the said company that has not yet been disclosed to the public.

## Partnerships with Suppliers and Contractors

### Sharing information for developing products

At Konica Minolta, we develop partnerships with our suppliers and contractors with the end goal of manufacturing products that are better in all ways, including higher environmental performance, so that both sides can continue to grow and prosper. Green procurement is taken into consideration when selecting suppliers of parts and raw materials, and we share information with supplies regarding environmental regulations and trends so that we can better work together.

Green Procurement: See page 14



Voice

#### Fun Family Photo Class

Each August, the Odawara site co-sponsors the Fun Family Photo Class, held by the Sakawa River Watershed Conservation Committee. This August will mark the eighth year of this class held to raise awareness about water quality issues by having participants take pictures of the Sakawa River. Every class is filled with fun as we try different approaches.

(Takashi Kadowaki, Photo Business Headquarters, Konica Minolta Photo Imaging, Inc.)

# Employee Relations

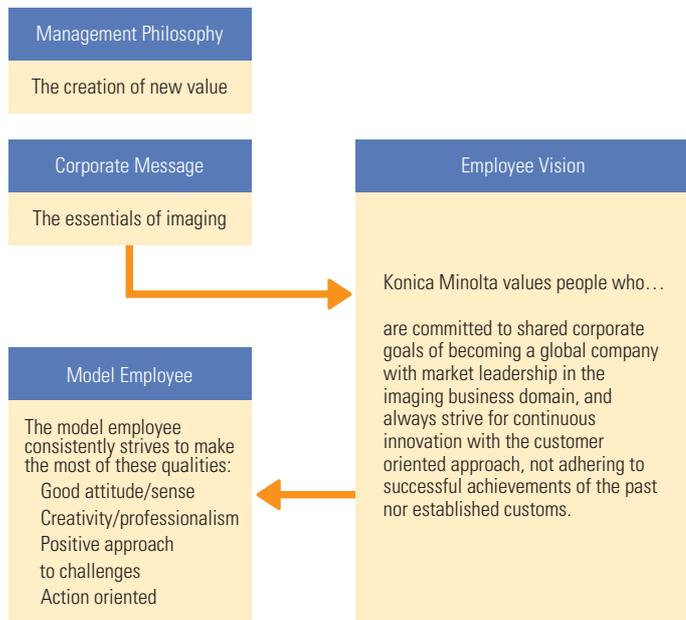
Konica Minolta places an emphasis on employee relations, as employees are the key to increasing company value. Employee unity is boosted by clarifying what we want our employees to be and communicating closely with them, and Konica Minolta works hard to create a good working environment and excellent training programs for employees to develop their individual abilities.

## Konica Minolta's Basic Approach on Group Employees

### Personnel philosophy based on new values and standards

The integration of Konica and Minolta has brought employees from both sides together to work towards the success of the new Konica Minolta Group. In order for this integration to succeed, a new personnel philosophy was needed, namely some guidelines that provide an image of the model employee. This personnel philosophy serves as a guide for realizing the management philosophy, "the creation of new value". It articulates the image of the model employee and connects to employees' daily conduct and responsibilities. Personnel policies and strategies also express our respect for people.

#### Konica Minolta Personnel Philosophy



## Communication and Information Sharing

### Enhancing communication via the intranet and other means

Konica Minolta's intranet system, "Konica Minolta Online," functions as the Group's communication hub. Konica Minolta Online contains Group policies and company information, and also serves as an important direct communication link between the president and CEO of Konica Minolta Holdings and employees. Konica Minolta also conducted a survey to obtain employees' views about the integration. The results are being used to establish Group business strategies and personnel policies.

#### Konica Minolta Online "i-Board"

"i-Board" serves as a platform for the president and CEO of Konica Minolta Holdings to communicate with employees directly about the Group's policies and plans so they can understand and share them. Employees are able to engage in direct communication with the company president via e-mail and express their opinions and feelings.



#### Quarterly Group Magazine KONICA MINOLTA

The aim of this publication is to promote communication among Group employees across organizational divisions. It is distributed quarterly to all Group employees to keep them informed on a range of aspects about the business. This includes information about the Group's activities, initiatives, organization and system, in addition to profiles of fellow colleagues.



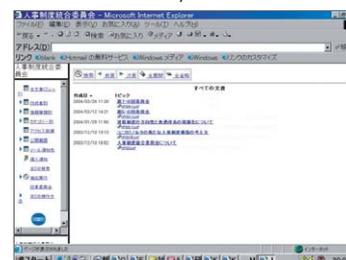
## Establishing a New Human Resources System

### A new human resources system that rewards ability and motivation

The Committee for Unification of Human Resources System, comprised of representatives from the Konica Minolta Group Human Resources Department as well as labor union representatives, was created to prepare the new Group personnel system, scheduled to go into effect in April 2005. The Committee is now working on establishing this new system, while respecting differences in employee and management stances, based on the spirit of maintaining and growing the relationship of trust.

#### Website of the Committee for Unification of Human Resources System

Labor and management are working together to establish Konica Minolta's new personnel system, and it is important to keep this process transparent. There is a page on Konica Minolta Online devoted to informing employees about decisions the committee has made as well as updates on ongoing discussions.



## Promoting Equal Opportunity and Diversity

### A discrimination-free work environment

Konica Minolta is committed to a diverse work environment where equal opportunities are provided to all employees. Not only is this a protection of basic worker rights, which are an extension of basic human rights, but also an important part of our overall responsibility to society. This respect for employees is also stressed in Konica Minolta's Charter of Corporate Behavior, which clearly states that there is to be no discrimination, and that individuality, individuals' rights, and privacy are to be honored.

■ Respect for Employees (Excerpt from "Conduct Guideline")

**Respect for Employees**

1. We shall endeavor to make the lives of employees comfortable and fulfilling.
2. We shall comply with all applicable laws, internal policies and regulations concerning the health and safety of employees at work, and endeavor to create a safe and healthy workplace.
3. We shall respect the individuality, human rights and privacy of employees, and create a cooperative and comfortable working environment that is free of discrimination of race, nationality, gender, religion, belief or physical disability.
4. We recognize that men and women are equal, and shall not engage in any conduct that may be construed as sexual harassment.

**Equal Workplace Opportunities for Men and Women**

Konica Minolta is committed to providing equal opportunities to all employees regardless of gender. This goes hand in hand with our fundamental respect for individuals and human rights. From employment and compensation, to training and promotions, gender is never a basis for discrimination. We believe it is important to provide a work environment in which women can excel, and have put in place a number of support programs for this purpose as well as to raise employees' awareness of this issue. As a result of these efforts more women are working long-term for Konica Minolta; at the end of fiscal 2003 the average female employee age was 36.6, with the average female term of employment at 16.6 years.

**Assistance with Childcare and Nursing Care**

The family is an important foundation that enables employees to live fulfilling lives and to devote themselves to their work. Konica Minolta is committed to helping its employees find a good balance between their work and home life, and has established programs that allow employees—both male and female—to take time off work for childcare, nursing care, and to have shorter work days if they choose to do so. In fiscal 2003, 65 employees took childcare leave, and 2 employees took advantage of nursing leave, while 138 employees worked shorter days in order to attend to family matters. During 2003, over 80% of our employees who gave birth to children took childcare leave.

**Maintaining a Pleasant Work Environment**

At Konica Minolta, we are committed to providing our employees with a pleasant work environment free of any kind of discrimination or harassment. The Konica Minolta Guidelines for Conduct and Compliance Manual prohibit discrimination and harassment, particularly sexual harassment and power harassment. A Compliance Help Desk and a Human Resources Department contact point have been established to respond to any problems.



The Sexual Harassment Prevention Guide is posted on Konica Minolta Online to raise awareness on this issue.

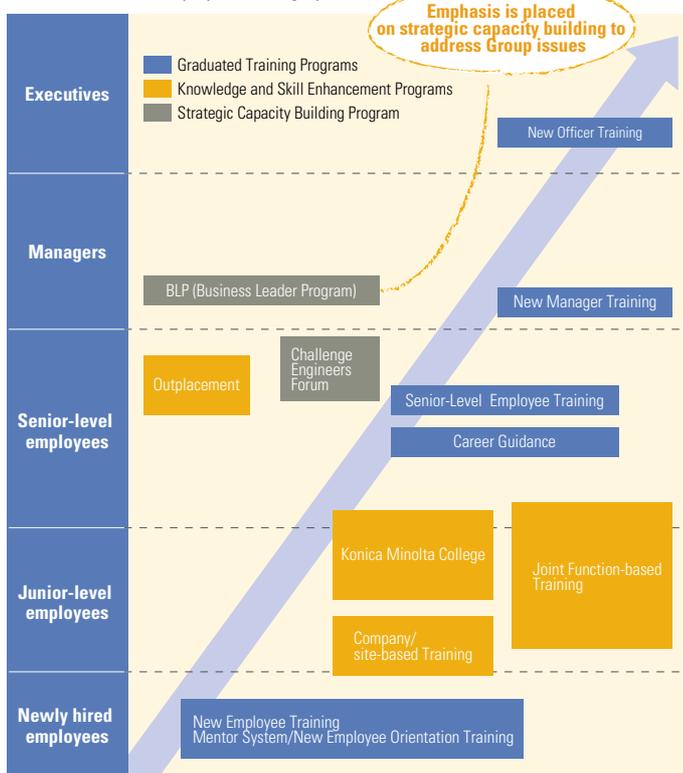
**Employee Development**

**Training employees as part of our total corporate strategy**

At Konica Minolta, each person's capacity development is, in principle, done through on-the-job development (OJD), which is conducted as each person executes his or her job duties and deals with tasks in the workplace. To enhance the learning benefits of OJD, we offer "Graduated Training Programs" as employees assume new roles and positions, as well as various types of "Knowledge and Skill Enhancement Programs." We respect each employee's own level of motivation, so in principle, participation in these programs is voluntary. In addition, we are implementing a "Strategic Capacity Building Program" which develops future leaders of the Konica Minolta Group.

\*On the Job Development refers to training employees as they engage in actual work.

■ Konica Minolta's Employee Training System



**Knowledge and Skill Enhancement Programs**

**Konica Minolta College**

The Konica Minolta College is an educational program open to employees who wish to become more knowledgeable in a certain area or more skilled at certain tasks. A wide range of classes (from technical training to management courses) are offered. 1,425 employees attended classes at the Konica Minolta College in fiscal 2003.



**Strategic Capacity Building Program**

**Challenge Technicians Forum**

This forum gives technicians dedicated to their craft the opportunity to polish their senses, think hard, communicate, and act in order to become even more skilled at what they do. The forum consists of both self-study and group sessions.



**Business Leaders Program**

Business Leaders Program develops leaders who will be able to promote the changes and develop the new businesses that will allow Konica Minolta to flourish in the midst of the ever-changing business environment and stiff competition. In the program, individuals acquire basic business management skills, develop an entrepreneurial mind and become better able to make business proposals. They then take advantage of these newly acquired skills to develop actual proposals for new business activities.



**Konica Minolta College—Helping Employees Enhance Their Skills**  
The people I meet at Konica Minolta College are motivated and have a positive attitude. Company employees teach some of the courses and show their passion when teaching others their area of expertise. I am looking forward to grow as a business person, along with the other participants.

(Chie Suenaga, Human Resources Development Service Department, Human Resources Support Division, Konica Minolta Business Expert, Inc.)



# Konica Minolta Group Charter of Corporate Behavior

Corporations, in addition to being economic entities engaged in the pursuit of profit through fair competition, should be beneficial to society at large. For this reason, Konica Minolta Group shall behave in a socially responsible manner and shall have all of its directors, officers and employees clearly acknowledge the spirit of this Charter of Corporate Behavior.

Senior management shall recognize that the fulfillment of the spirit of this Charter is its own role and responsibility, and shall take the initiative to ensure that all directors, officers and employees fully understand the Charter. In addition, the management shall constantly pay attention to the opinions of internal and external parties and shall promote the implementation of effective systems to secure ethical corporate behavior.

## 1 Beneficial and safe products

We shall strive to earn the confidence of consumers and clients through the development and provision of socially beneficial products and services with the utmost consideration for safety.

## 2 Fair and transparent corporate activities

We shall, in the pursuit of fair and transparent corporate activities, comply with laws and social regulations and act in accordance with international rules and the articles of incorporation.

## 3 Communications with society and information disclosure

We shall communicate with society at large and disclose corporate information fairly and adequately.

## 4 Environmental protection

We shall acknowledge the seriousness of global environmental issues and shall act voluntarily and affirmatively to protect the environment.

## 5 Contribution to society

We shall, with a global perspective, affirmatively make contributions to society while respecting local customs and cultures.

## 6 Respect for employees

We shall endeavor to make the lives of employees comfortable and fulfilling, provide a safe work environment, and respect each employee's personality and individuality.

## 7 Responsible actions

In the event of a violation of the principles of this Charter, in order to solve the problem senior management shall investigate the cause of the violation and develop reforms to prevent its recurrence in accordance with corporate compliance procedures. Prompt public disclosure of precise information and an explanation regarding the violation shall be made and responsibility for the violation shall be clarified. Strict and fair disciplinary action shall be taken including with respect to senior management where necessary.

Dated: October 1, 2003

## History of Konica Minolta

	Company/Product	Environment	Activity
2003 Aug	●		Newly-integrated Konica Minolta Holdings, Inc. established.
Aug		●	Environmental Policy established.
Sep		●	Konica Minolta Odawara Site Environmental Report (site report) published.
Sep		●	First Annual Konica Minolta Environmental Award ceremony.
Sep		●	Environmental Seminar Series, lecture by Hisatake Kato, President of Tottori Environmental University
Sep		●	Community Environmental Briefings held at Tokyo site.
Oct	●		Reorganization and integration of Konica Minolta Group businesses.
Oct	●		Tie-up with Hewlett Packard for OEM supply of digital multi-function devices.
Oct	●		Six products won 2003 Good Design Award (Japan Industrial Design Promotion Organization), including digital camera DiIMAGE Xt•Z1•A1.
Oct	●		Laser printer marketing tie-up with Chinese PC maker Lenovo Group Ltd.
Oct	●		Sales launch of Ion Pack 350 Syringe (100 ml) enhanced type non-ionic contrast medium.
Oct		●	Konica Minolta Tokyo Site Environmental Report 2003 (Site Report) published.
Oct		●	Konica Minolta Kofu Site Environmental Management Report 2003 (Site Report) published.
Nov	●		Sales launch of digital Camera DiIMAGE G400.
Nov		●	Konica Minolta Kobe Site Environmental and Social Report 2003 (Site Report) published.
Nov		●	Community Environmental Briefing held at Odawara site.
Dec		●	Display at Eco Products 2003 exhibition.
Dec		●	Digital copiers DiALTA Di3510 and DiALTA Di3510f are first products to be certified under Blue Angel Mark in new category of "multi-function devices."
2004 Feb	●		Sales launch of five models of digital camera, including DiIMAGE A2•Z2.
Feb	●		Film, cameras and other new product brands unified under Konica Minolta name.
Feb	●		Sales launch of Monitor Probe LM-5C for pulse oxymeter use.
Feb		●	Odawara site receives Energy Conservation Center Award of Excellence at the National Energy Conservation Contest 2003.
Feb		●	Printer business authorized under EcoLeaf environmental label system
Feb	●		Worldwide launch of new multi-function devices brand "bizhub."
Mar	●		Sales launch of bizhub C350 color multi-function device.
Mar	●		Sales launch of bizhub 7235 digital multi-function device.
Mar	●		Grand opening of planetarium Sunshine Starlight Dome "Manten."
Mar		●	Redesign of environmental website.
Apr		●	Marunouchi site included in our multi-site ISO 14001 certification.

# Global Data

## Calculating Konica Minolta's Environmental Impact

Impacts on the environment are not limited by geographic boundaries. Based on our awareness that Konica Minolta's business activities impact the Earth's environment through the use of resources and the disposal of waste, we collect and analyze data concerning our environmental impact on a global scale and seek to reduce our impact on the environment. Our reporting here includes data from overseas operations beginnings in fiscal 2001, when data on all of our production sites became available. Fiscal 2003 data also are broken down by region.

In the future, we will expand the coverage of our global data, collecting and disclosing even more detailed information on our overseas operations.

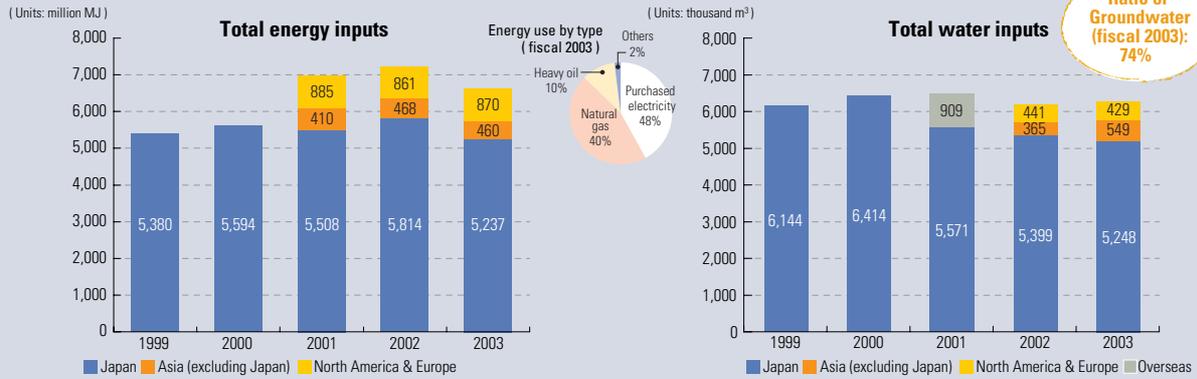
## Fiscal 2003 Data—Coverage & Methodology

Environmental impact data are collected for all Konica Minolta Group production sites. Environmental impacts of production sites account for the majority of the Group's environmental impacts—for example, more than 95% of our greenhouse gas emissions and more than 99% of our water usage. For the items that required the standardization of data collection, calculation methods and criteria as a result of our corporate integration—such as waste, energy use and greenhouse gas emissions—people responsible for each category did the calculations in close cooperation with each site, checking the details as they went along.

## Production sites

Site name	Location	Items produced
<b>Konica Minolta production sites</b>		
Konica Minolta Tokyo site (Hino block)	Hino-shi, Tokyo	Color film and photosensitive materials
Konica Minolta Tokyo site (Hachioji block)	Hachioji-shi, Tokyo	Optical parts
Konica Minolta Odawara site	Odawara-shi, Kanagawa Prefecture	Photo printing and inkjet papers
Konica Minolta Kofu site	Nakakoma-gun, Yamanashi Prefecture	Medical imaging materials
Konica Minolta Mizuho site	Toyokawa-shi, Aichi Prefecture	Image information equipment
Konica Minolta Itami site	Itami-shi, Hyogo Prefecture	Optical-related products
Konica Minolta Osakasayama site	Osakasayama-shi, Osaka	Optical-related products
Konica Minolta Kobe site	Kobe-shi, Hyogo Prefecture	Triacetyl-cellulose (TAC) film for use in LCD polarizing plates
<b>Japanese affiliate production sites</b>		
Konica Minolta Technoproducts Co., Ltd. Headquarters	Sayama-shi, Saitama Prefecture	Assorted machinery
Konica Minolta Technoproducts Co., Ltd. Hachioji Facility	Hachioji-shi, Tokyo (within Tokyo site)	Machining
Konica Minolta Technoproducts Co., Ltd. Tsuru Facility	Tsuru-shi, Yamanashi Prefecture	Electronics parts
Konica Minolta Supplies Manufacturing Co., Ltd.	Kofu-shi, Yamanashi Prefecture	Toner for image information equipment
Miki Minolta Industries Co., Ltd.	Miki-shi, Hyogo Prefecture	Consumables for image information equipment
Toyohashi Precision Products Co., Ltd.	Toyohashi-shi, Aichi Prefecture	Equipment parts
Sankei Precision Products Co., Ltd.	Toyokawa-shi, Aichi Prefecture (within Mizuho site)	Image information equipment
Konica Minolta Opto Products Co., Ltd.	Higashiyatsushiro-gun & Minamitsuru-gun, Yamanashi Prefecture	Optical parts
Konica Minolta Components Co., Ltd.	Toyokawa-shi, Aichi Prefecture	Optical parts
Nankai Optical Co., Ltd.	Kainan-shi, Wakayama Prefecture	Optical parts
MYG Disk Co., Ltd. Headquarters	Osakasayama-shi, Osaka (within Osakasayama site)	Optical parts
MYG Disk Co., Ltd. Iruma Facility	Iruma-shi, Saitama Prefecture	Optical parts
Konica Minolta Packaging Co., Ltd.	Hamura-shi, Tokyo	Color film
Konica Minolta Chemical Co., Ltd. Fukushima Facility	Soma-gun, Fukushima Prefecture	Chemicals
Konica Minolta Chemical Co., Ltd. Shizuoka Facility	Iwata-gun, Shizuoka Prefecture	Chemicals
Okayama Minolta Seimitsu Co., Ltd.	Maniwa-gun, Okayama Prefecture	Optical instruments
<b>Overseas affiliate production sites</b>		
Konica Minolta Business Solutions( Wuhan )Co., Ltd.	China	Image information equipment
Konica Minolta Business Technologies Manufacturing( HK )Ltd.	China	Image information equipment
Konica Minolta Opto( Dalian )Co., Ltd.	China	Optical-related products
Konica Minolta Optical Products( Shanghai )Co., Ltd.	China	Cameras
Konica Minolta Optical Technologies( Shanghai )Co., Ltd.	China	Cameras
Konica Minolta Precision Engineering Malaysia Sdn. Bhd.	Malaysia	Camera parts
Konica Minolta Photochem( Thailand )Co., Ltd.	Thailand	Photographic chemicals
Konica Supplies Manufacturing U.S.A., Inc.	United States	Image information equipment toner
Minolta Advance Technology, Inc.	United States	Image information equipment toner
Konica Minolta Manufacturing U.S.A., Inc.	United States	Photo printing paper
Konica Minolta Graphic Imaging U.S.A., Inc.	United States	Photosensitive materials for printing
Konica Minolta Supplies Manufacturing France S.A.S.	France	Image information equipment toner

# INPUT



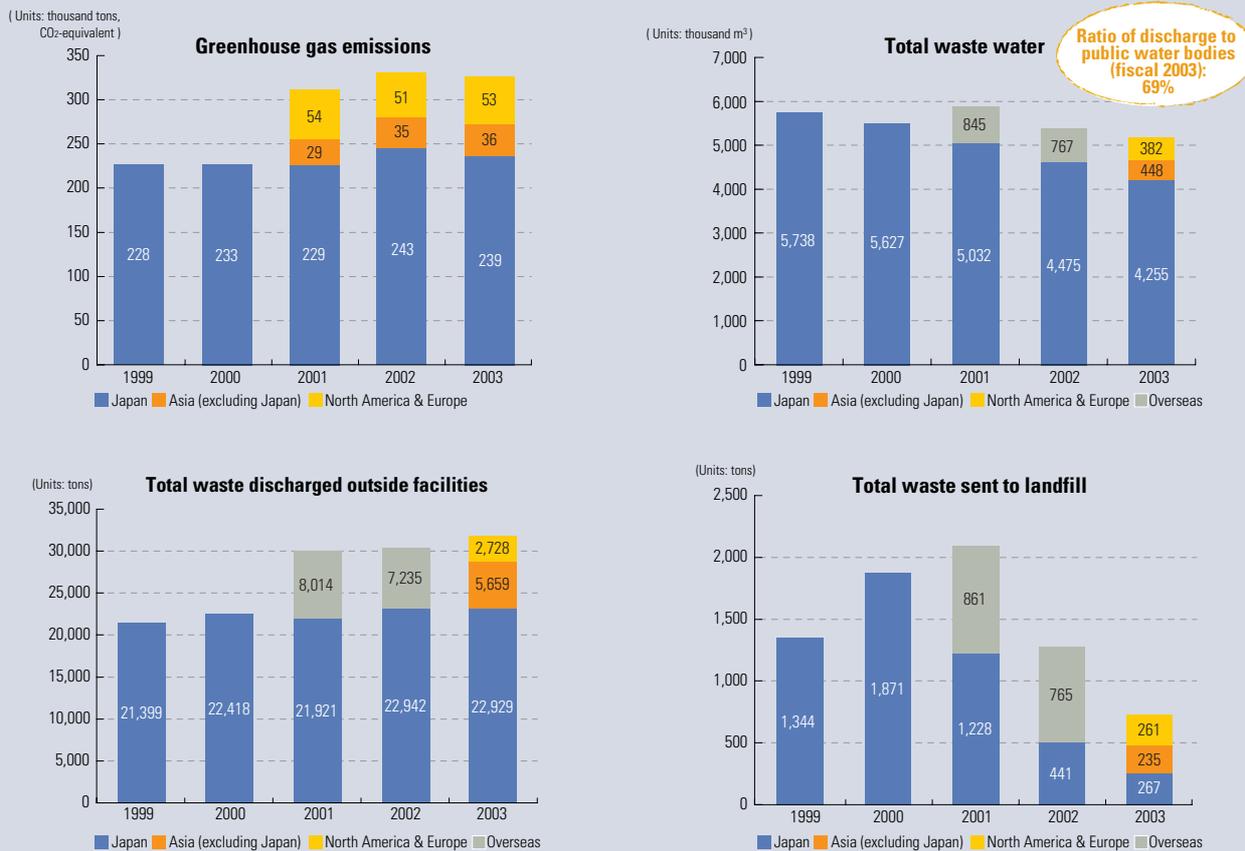
Electricity : 328,915 MWh    Natural gas : 70,014 thousand m<sup>3</sup>    Heavy oil : 16,012 kiloliters    Ground water : 4,615 thousand m<sup>3</sup>    in fiscal 2003



**Konica Minolta**



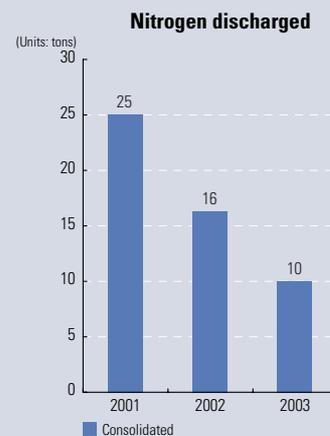
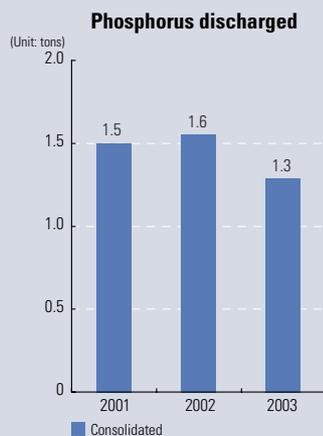
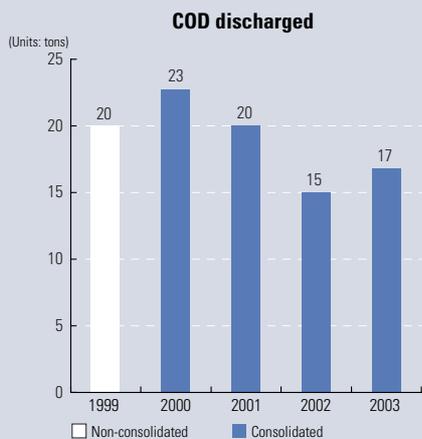
# OUTPUT



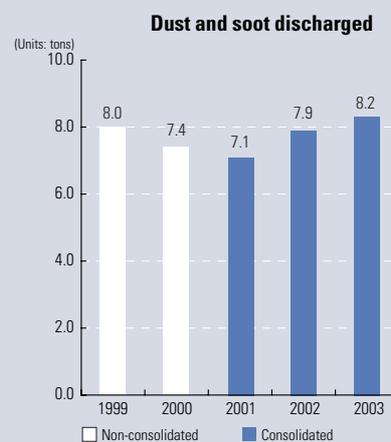
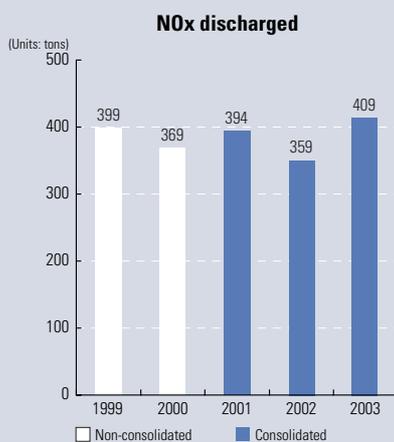
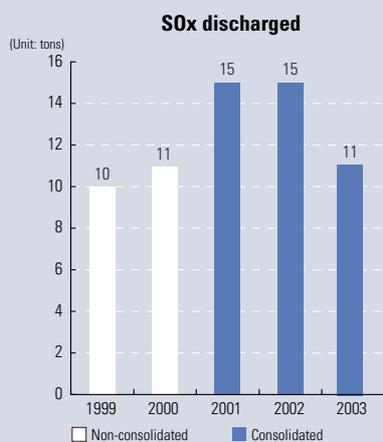
CO<sub>2</sub> : 327,650 tons    Waste water : 5.085 million m<sup>3</sup>    Total waste sent to landfill : 762 tons    in fiscal 2003

# Data for Japan

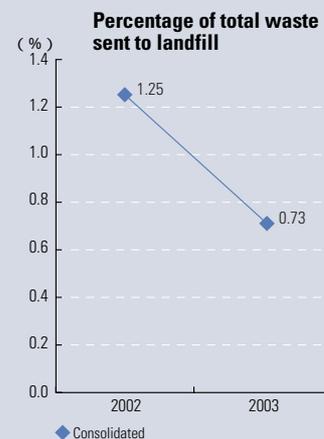
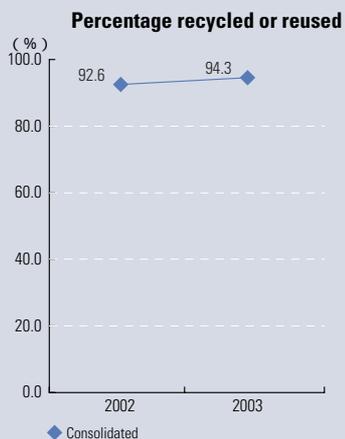
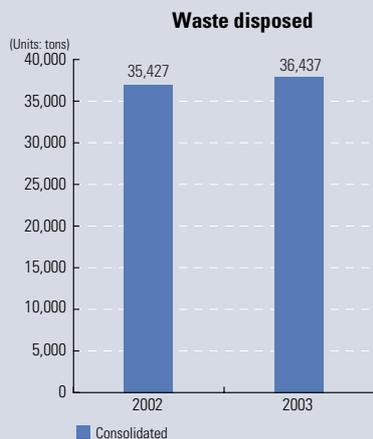
## Public water bodies



## Air



## Waste



## Substances Controlled by PRTR (Pollution Release and Transfer Register) Regulations

Fiscal 2003 / Consolidated (Japan)

Units: tons

PRTR Law identification number	Name of chemical substance	Amount handled	Releases			Amounts used (in products)	Treated on-site (incinerated, decomposed)	Amount transferred externally		Recycled
			To air	To water	To soil			*Waste	Sewage	
4	Ethyl acrylate	5.7	0.1	0.0	0.0	5.5	0.0	0.1	0.0	0.0
12	Acetonitrile	359.2	14.6	0.0	0.0	0.0	38.6	302.3	0.0	3.6
15	Aniline	7.3	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0
19	3-Amino-1,2,4-triazole	2.7	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0
25	Antimony and its compounds	44.9	0.4	0.0	0.0	43.1	0.0	1.4	0.0	0.0
43	Ethylene glycol	8.7	0.6	0.0	0.0	2.8	0.0	5.0	0.2	0.0
45	Ethylene glycol monomethyl ether	6.3	0.0	0.0	0.0	2.5	0.0	3.8	0.0	0.0
46	Ethylenediamine	2.9	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0
63	Xylene	24.5	3.6	0.0	0.0	0.0	0.0	20.9	0.0	0.0
64	Silver compounds (Ag equivalent)	704.8	0.0	0.0	0.0	690.3	0.0	6.0	0.1	8.4
65	Glyoxal	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
67	Cresol	1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
83	1-Chloro-2,4-dinitrobenzene	4.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0
95	Chloroform	32.0	2.6	0.0	0.0	0.0	2.4	27.0	0.0	0.0
116	1,2-Dichloroethane	16.0	2.8	0.0	0.0	12.2	0.0	1.0	0.0	0.0
117	1,1-Dichloroethylene	8.7	0.0	0.0	0.0	8.6	0.0	0.1	0.0	0.0
139	o-Dichlorobenzene	1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
145	Dichloromethane	294.4	161.4	0.0	0.0	5.8	1.6	79.9	0.0	45.8
172	N,N-Dimethyl formamide (DMF)	220.2	3.5	0.0	0.0	3.8	36.4	176.5	0.0	0.0
177	Styrene	1,237.4	2.6	0.0	0.0	1,228.4	0.0	2.1	4.2	0.0
212	2,4,6-Trichloro-1,3,5-triazine (also known as cyanuric chloride)	16.8	0.0	0.0	0.0	16.8	0.0	0.0	0.0	0.0
227	Toluene	172.7	14.9	0.0	0.0	3.1	0.8	140.6	13.2	0.0
230	Lead and its compounds (amounts contained in solder, etc.)	2.5	0.0	0.0	0.0	1.6	0.0	0.3	0.0	0.6
232	Nickel compounds	15.8	0.0	2.2	0.0	6.9	0.0	6.7	0.0	0.0
241	Carbon disulfide	1.6	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
243	Barium and its water-soluble compounds (such as barium iodide)	12.8	0.1	0.0	0.0	5.3	0.0	7.4	0.0	0.0
253	Hydrazine	8.3	0.0	0.0	0.0	4.3	3.6	0.4	0.0	0.0
254	Hydroquinone	21.2	0.0	0.0	0.0	18.5	0.0	2.6	0.0	0.0
259	Pyridine	19.0	0.0	0.0	0.0	2.7	1.8	14.5	0.0	0.0
266	Phenol	1.4	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
272	Bis (2-ethylhexyl) phthalate (DOP)	29.7	0.0	0.0	0.0	28.7	1.0	0.0	0.0	0.0
283	Hydrogen fluoride and its water-soluble salts	2.0	0.0	0.0	0.0	1.5	0.0	0.5	0.0	0.0
304	Boron and its compounds (B equivalent)	4.0	0.0	0.2	0.0	3.4	0.0	0.3	0.1	0.0
310	Formaldehyde	3.3	0.1	0.0	0.0	2.7	0.0	0.5	0.0	0.0
313	Maleic anhydride	5.4	0.1	0.0	0.0	5.1	0.1	0.1	0.0	0.0
314	Methacrylic acid	139.0	0.2	0.0	0.0	138.1	0.0	0.1	0.5	0.0
316	2,3-Epoxypropyl methacrylate	1.7	0.0	0.0	0.0	1.6	0.1	0.0	0.0	0.0
320	Methyl methacrylate	25.3	0.0	0.0	0.0	25.1	0.0	0.2	0.0	0.0

\* In accordance with PRTR Law definitions, even if materials were recycled later, they were counted here as waste if they were not sold at a price.

# Environmental Accounting

## Our Approach

“Environmental accounting” helps us to promote rational decision-making about our environmental measures. Specifically, we hope to utilize cost-benefit analyses of each of our measures in choosing the most effective measures. In addition, when we are able to assess the financial costs of environmental measures, it becomes possible to directly link them with our management strategies, thus strengthening our ability to have the best overall environmental results.

## Results and Future Goals

We conducted consolidated environmental accounting on a global scale for the entire Group, by standardizing the accounting methods as part of our corporate integration, and by designating environmental accounting officers within each of our companies, to create a system closely linked to our sites. With the aim of fully implementing our environmental policies through the practice of environmental accounting in the future, we have included environmental accounting items into our environmental objectives, to facilitate decision making and evaluation of results.

### Konica Minolta's approach

Use environmental accounting to objectively reflect the intangible aspects and results of our efforts into actual business operations.

**1** We go beyond analyzing the economic effects and reduction of environmental loads caused by our activities, assessing risks as well.

With environmental accounting, we calculate the effects and benefits from our investments and expenditures, not the revenues. At Konica Minolta, in addition to economic benefits and environmental loads reduction effects, we have established criteria and assessment methods that allow us to calculate risks and the “risk reduction effect” of our actions. The “risk reduction effect” is an estimate of the environmental impacts in the absence of a certain pollution-prevention policy, and is one way to express “intangible effects” in monetary terms.

### Assessing Risk Reduction Effects

Assessing the “risk reduction effect” of our global warming prevention measures (see page 19) and chemicals management (see page 16)

	Global warming prevention measures	Chemical risk reduction
Policies and activities implemented in fiscal 2003	Worldwide CO <sub>2</sub> reductions, based on LCA* for all product categories	Reductions in atmospheric emissions of dichloromethane, ethyl acetate, methanol and DMF
Environmental effect	CO <sub>2</sub> emissions reduced by 30,000 tons	Emissions reduced by 50 tons
Monetary equivalent of reduced risk	302 million yen	160 million yen

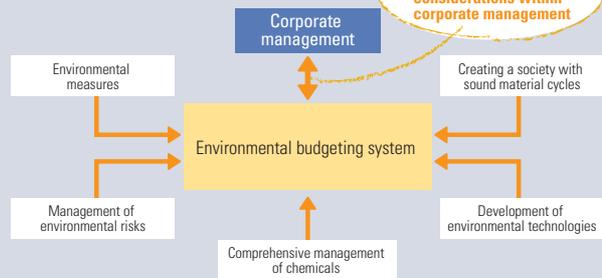
\*Based on internal calculation criteria based on the “Environmental Accounting Guidebook II” (Ministry of the Environment, March 2001). \*LCA = life cycle assessment

**2** To utilize environmental accounts more effectively, we have introduced our own environmental budgeting system.

We have introduced our own environmental budgeting system, which we use in budgeting for the entire company, to ensure that the budget for our environmental policies has been incorporated appropriately and thoroughly. By including environment-related costs, investments, effects and risk within our budgets, we can ensure that our environmental accounting framework is proactive, bringing us closer to the ultimate goal of environmental accounting—rational decision-making on environmental policies.

### Importance of Establishing Our Environmental Budgeting System

Budgeting makes it easier to include these considerations within corporate management

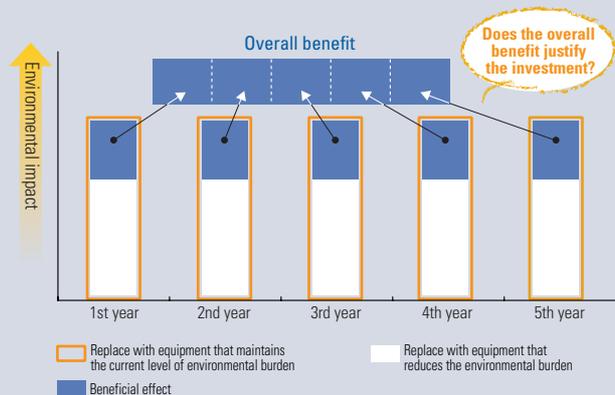


### Calculating Overall Benefits

We attempt to assess even the long-term environmental effects of new products and plant investments, which can be difficult to determine in the short term.

We feel we cannot assess the benefits of introducing environmentally sound products or equipment upgrades only by calculating the effects over a one-year period. At Konica Minolta, we therefore calculate the total improvement in terms of the cumulative effects over five years, and use these calculations to evaluate the benefits of our investments.

### Calculating the “Overall Benefit” of Equipment Upgrades



■ Environmental Accounts: Results for Fiscal 2003 and Budget for Fiscal 2004

Units: million yen

Types of environmental measures		Fiscal 2003 Results				Fiscal 2004 Budget	
		Investment costs	Expenses	Economic benefit		Investment costs	Expenses
				Fiscal 2003	Fiscal 2004-07		
Costs within business area	Pollution prevention	483	1,337	191	999	1,376	1,484
	Global warming prevention	192	1,927	1,143	944	193	2,104
	Resource recycling	303	1,914	7,499	1,258	259	2,124
Sub-total		978	5,178	8,833	3,200	1,827	5,711
Upstream-downstream costs		39	3,366	2,879	65	29	1,995
Management costs		20	1,332	2	1	9	928
Research & development costs		0	4,466	553	1,599	91	4,777
Social contribution costs		0	24	0	0	0	19
Environmental damage costs		0	97	0	0	4	51
Other costs		0	55	0	0	0	0
Total		1,038	14,517	12,267	4,866	1,961	13,483

\*This budget does not cover overseas affiliate companies.

■ Fiscal 2003 Results: Environmental Protection Benefits

[ Effect from business area cost and upstream and downstream costs ]

	Type of benefit	Fiscal 2003
Manufacturing	Reduction in water usage	475,833 tons
	Reduction in electricity usage	17,283 MWh
	Reduction in natural gas usage	4,312 thousand m <sup>3</sup>
	Reduction in heavy oil usage	1,769 kiloliters
	Reduction in materials usage	776 tons
	External recycling and reuse of waste	20,863 tons
Sales	Reduction in packing materials	325 tons
	Reuse and recycling of used products	3,744 tons

[ Effect from research & development costs ]

	Type of benefit	Overall benefit
Manufacturing	Reduction in harmful chemicals	744 tons
Use	Reduction in electricity usage	98,207 MWh

■ Fiscal 2003 Results: Customer Benefits

[ Benefits from research & development costs ]

Units: million yen

Type of benefit	Fiscal 2003	Overall benefit
Reduction in electricity usage	524	1,767

■ Companies Included in Results for Fiscal 2003

The eight main Konica Minolta companies

Konica Minolta Holdings, Inc. / Konica Minolta Business Technologies, Inc. / Konica Minolta Opto, Inc. / Konica Minolta Photo Imaging, Inc. / Konica Minolta Medical & Graphic, Inc. / Konica Minolta Sensing, Inc. / Konica Minolta Technology Center, Inc. / Konica Minolta Business Expert, Inc.

32 Japanese affiliate companies

Konica Minolta Technoproducts Co., Ltd. / Konica Minolta Supplies Manufacturing Co., Ltd. / Miki Minolta Industries Co., Ltd. / Sankei Precision Products Co., Ltd. / Aoi Camera Co., Ltd. / Konica Minolta Business Solutions Japan Co., Ltd. / Toyohashi Precision Products Co., Ltd. / Konica Minolta Repro Co., Ltd. / Konica Minolta Medical & Graphic Technosupport Co., Ltd. / Konica Minolta Opto Products Co., Ltd. / Konica Minolta Components Co., Ltd. / Nankai Optical Co., Ltd. / MYG Disk Co., Ltd. / Konica Service Co., Ltd. / Minolta Camera Service Co., Ltd. / Okayama Minolta Seimitsu Co., Ltd. / Konica Minolta Planetarium Co., Ltd. / Kansai Optim Co., Ltd. / Konica Minolta Packaging Co., Ltd. / Konica Minolta Chemical Co., Ltd. / Konica Minolta Engineering Co., Ltd. / Konica Information Systems Corporation / Famous Co., Ltd. / Konica Minolta Logistics Co., Ltd. / Konica Minolta Sogo Services Co., Ltd. / Kyoritsu Medical Co., Ltd. / Konica Medical Co., Ltd. / Konica Minolta Graphic Imaging Co., Ltd. / Konica Minolta Marketing Corporation / Konica Minolta Photo Solutions Co., Ltd. / Konica Minolta ID System Co., Ltd. / Konica Minolta ID Imaging Co., Ltd.

19 overseas affiliate companies

Konica Minolta Business Technologies Manufacturing (HK) Ltd. / Konica Minolta Business Solutions (Wuhan) Co., Ltd. / Konica Minolta Business Solutions Europe GmbH / Konica Minolta Business Solutions Deutschland GmbH / Konica Minolta Business Solutions (UK) Ltd. / Minolta Advance Technology, Inc. / Konica Supplies Manufacturing U.S.A., Inc. / Konica Minolta Supplies Manufacturing France S.A.S. / Konica Minolta Photo Imaging Europe GmbH / Konica Minolta Photo Imaging France S.A.S. / Konica Minolta Manufacturing U.S.A. / Konica Minolta Photochem (Thailand) Co., Ltd. / Konica Minolta Optical Products (Shanghai) Co., Ltd. / Konica Minolta Optical Technologies (Shanghai) Co., Ltd. / Konica Minolta Precision Engineering Malaysia Sdn. Bhd. / Minolta Malaysia Sdn. Bhd. / Konica Minolta Opto (Dalian) Co., Ltd. / Konica Minolta Medical Imaging U.S.A., Inc. / Konica Minolta Graphic Imaging U.S.A., Inc.



## KONICA MINOLTA

Konica Minolta Holdings, Inc.  
Konica Minolta Business Technologies, Inc.  
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Konica Minolta Medical & Graphic, Inc.  
Konica Minolta Sensing, Inc.  
Konica Minolta Technology Center, Inc.  
Konica Minolta Business Expert, Inc.

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