

**Nikon Environmental Report
2002**

Nikon

Company Profile

Corporate Name:	NIKON CORPORATION
Head Office:	Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 100-8331, Japan Tel: +81-3-3214-5311
Established:	July 25, 1917
Capital:	¥36,660 million
(as of March 31, 2002)	
Net Sales:	¥482,975 million (Consolidated)
(for year ended March 31, 2002)	¥325,222 million (Non-consolidated)
Number of Employees:	14,328 (Consolidated)
(as of March 31, 2002)	6,486 (Non-consolidated)
Primary Business:	Manufacture and sales of optical instruments

Major Products of Nikon Group

Precision Equipment Business (Precision Equipment Company*)	IC steppers/LCD steppers
Imaging Products Business (Imaging Company*)	Single-lens reflex cameras/Compact cameras/Interchangeable lenses/Speedlights/ Photographic accessories/Digital cameras/Film scanners
Instruments Business (Instruments Company*)	Biological microscopes/Industrial microscopes/Stereoscopic microscopes/ Environmental scanning electron microscopes/Medical image information systems/ Measuring instruments/Inspection equipment/Optical components
Customised Products Business (Customised Products Division*)	Customised equipment/Space-related equipment/Astronomy-related equipment/ Nuclear power-related equipment/Optical components
Binoculars and Telescopes Business (Nikon Vision Co., Ltd.)	Binoculars/Monoculars/Fieldsopes/Fieldmicroscopes/Loupes/Large objective diameter binoculars/Sightseeing binoculars/Laser rangefinders/Night vision scope
Surveying Instruments Business (Nikon Geotecs Co., Ltd.)	Total stations/Theodolites/Levels/GPS surveying systems
Eyewear Business (Nikon-Essilor Co., Ltd.; Nikon Eyewear Co., Ltd.)	Ophthalmic lenses/Hearing aids/Ophthalmic frames/Sunglasses/Pendant loupes

*These companies/division are part of Nikon Corporation's internal structure.

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Scope of Report

This environmental report contains information on the impact of Nikon Corporation's facilities on the environment, and measures undertaken for fiscal year 2002 (April 1, 2001 to March 31, 2002) at Nikon Corporation. It encompasses the head office, as well as the Ohi, Yokohama, Sagami, Kumagaya and Mito plants. The report also includes information on activities during the term, plans for future activities, and information on group companies.

The cover design expresses a world where Nikon's corporate activities are in harmony with nature. The lens, the foundation of Nikon corporate activity, projects air, water and earth onto a green leaf symbolising life.

Message from Management

Since Nikon established its “Nikon Basic Environmental Management Policy” in 1992, we have independently pursued a wide range of activities directed at environmental preservation, based on the core concepts of “recycling” and “coexistence.”

When we look at the world around us, we see many problems, such as global warming and the spread of environmental pollutants throughout nature. Naturally, society demands that even more stringent environmental preservation activities be undertaken by corporations, and the efforts made in this area are becoming increasingly important as an index for evaluating corporate performance. We are fully aware of this evolution in the management environment, and are committed to taking the necessary measures to meet the changing requirements.

In line with the changes in the management environment, Nikon created a new corporate strategy named “Vision Nikon 21” to clarify our future direction and corporate targets. We have also restructured company management. This new strategy reaffirms the importance of the three principles upon which Nikon was founded:

- 1) Nikon is a manufacturer backed by excellent technologies
- 2) Nikon exists thanks to customers
- 3) Nikon exists due to its uniqueness

These three principles also serve as the foundation for Nikon’s environmental activities, and we intend to adhere to them ever more closely in order to achieve our goals.

Based on this corporate strategy, in June 2000 we integrated the many and varied environmental targets to formulate “Nikon Environmental Action Plan 21”, which outlines the midterm environmental targets for the entire corporation. Our efforts are already producing tangible results. For fiscal 2003, we will review our programmes to further reduce environmental burdens. We also plan to expand implementation of the Environmental Action Plan throughout the Nikon Group. It is our sincerest hope that we may contribute to the continuing prosperity and fulfillment of humankind.

This environmental report includes an overview of Nikon’s corporate environmental activities for the last several years, especially for the fiscal year from April 2001 to March 2002. This is the second environmental report that Nikon has issued, and while we recognise that it is insufficient in certain areas, we intend to address these areas in future releases. We hope that this report will help you to better understand our stance and policies, and would be extremely appreciative if you would favour us with your honest comments and suggestions.



Shoichiro Yoshida

Shoichiro Yoshida
Chairman of the Board and
Chief Executive Officer



Teruo Shimamura

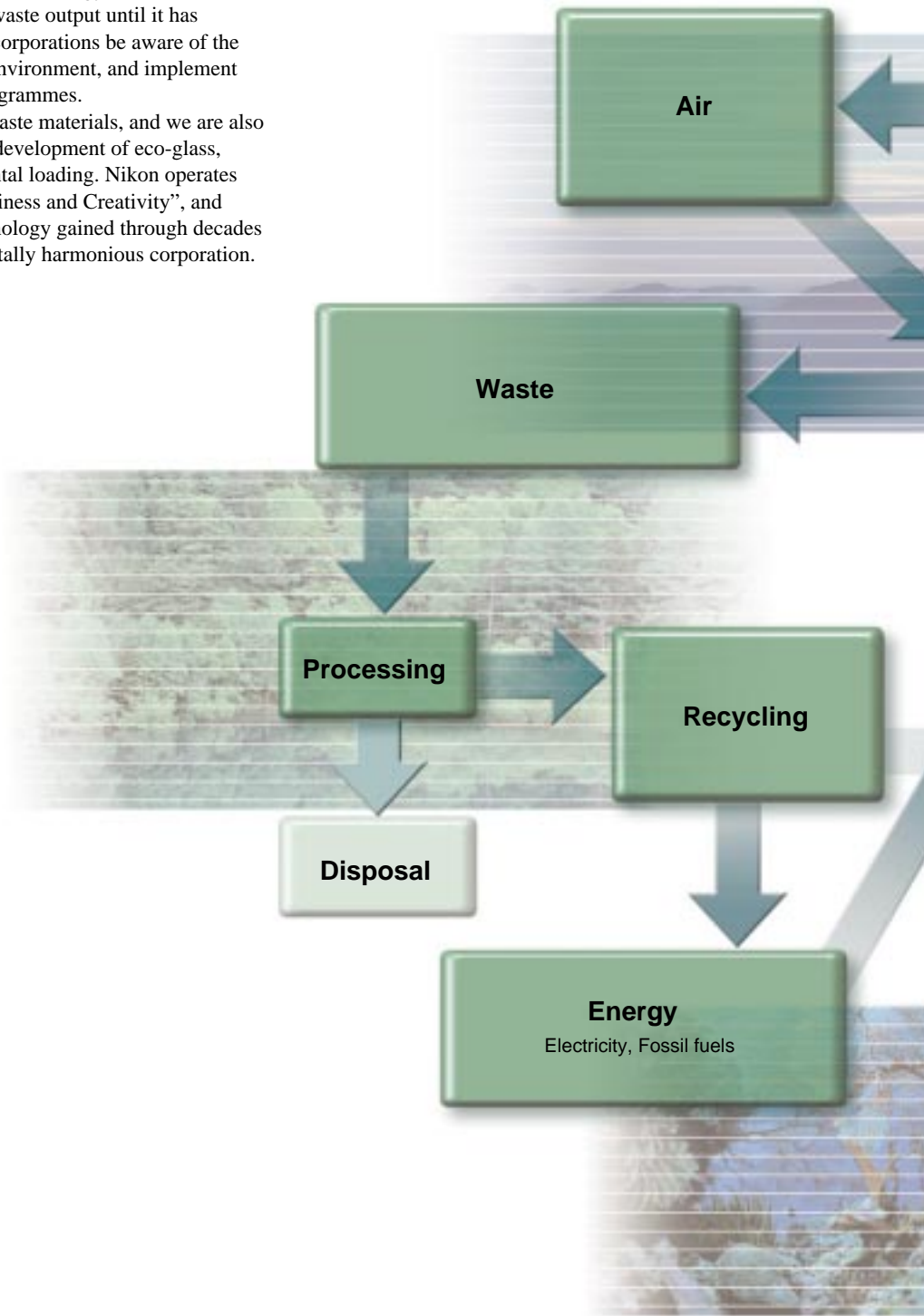
Teruo Shimamura
President, Member of the Board and
Chief Operating Officer

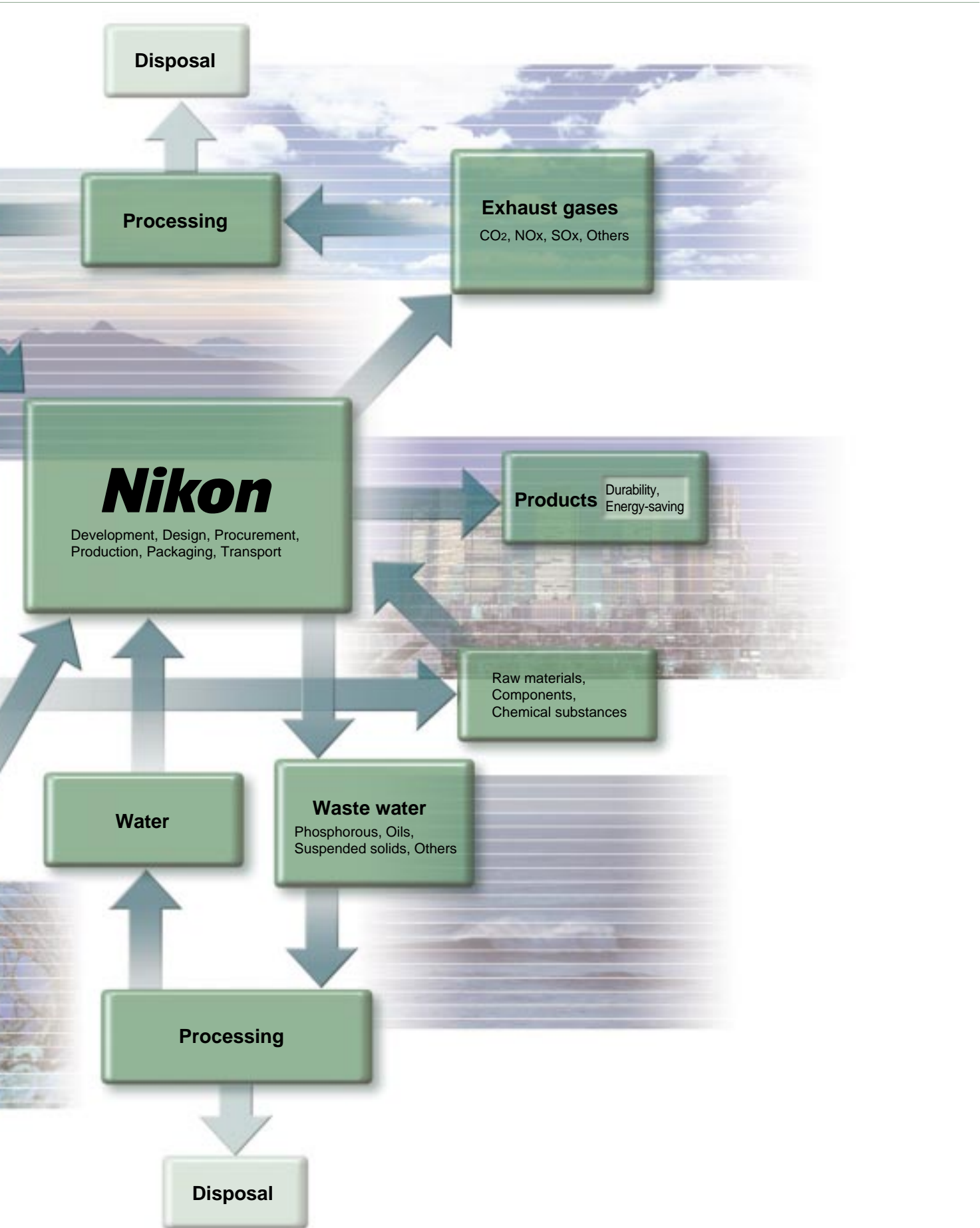
Nikon and the Environment

A corporation is like a living organism, functioning within the global environment. As it grows, it provides products and services to society and continues to grow, and during this time it consumes various resources and energy, and generates numerous types of waste.

It is crucial that we recognise the importance of recycling and conservation — particularly reductions in the use of energy and resources. We must also continue working to reduce our waste output until it has virtually been eliminated. It is imperative that corporations be aware of the impact their operations may be having on the environment, and implement more sophisticated ecological management programmes.

Nikon is continuing its efforts to reduce waste materials, and we are also actively pursuing unique activities such as the development of eco-glass, which will significantly reduce our environmental loading. Nikon operates based on its corporate philosophy, “Trustworthiness and Creativity”, and today we are applying the experience and technology gained through decades of work in the field to form a new, environmentally harmonious corporation.





Environmental Policy

Nikon made its official stance regarding environmental management activities in 1992, when it created and implemented the “Nikon Basic Environmental Management Policy”, and has continued to be active in environmental conservation. In March 2000, we devised the corporate strategy called “Vision Nikon 21”,

which describes the direction of Nikon Group activities. Nikon also redefined its corporate philosophy for the new century, using the keywords “Trustworthiness and Creativity”. Guided by our new philosophy, we will continue to pursue the goals of the “Nikon Basic Environmental Management Policy”.

Corporate Philosophy

Trustworthiness

Nikon:

- Is trusted and loved by people worldwide.
- Exists and prospers in harmony on all levels throughout the world.

Creativity

Nikon:

- Creates new values by maintaining pride and faith in our business and by encouraging entrepreneurial spirit.
- Appeals to people all over the world and satisfies them with efficient and useful products and services.

The Nikon Basic Environmental Management Policy

Purpose of the Policy

Nikon enacted the “Nikon Basic Environmental Management Policy” in 1992 in order to express its commitment to improvements in its local environment as well as globally, and to act as the foundation for its environmental management activities. Nikon believes that pollution prevention measures and the efficient use of resources are vital steps that must be taken, in order to be able to hand on to the next generation a healthy environment that is capable of supporting the continued development of society.

In fiscal 2002, the Nikon policy underwent a major revision in response to the anticipated needs of the coming recycling society. An outline of our action guidelines is presented at right.

Action Guidelines

- (1) We will make every effort to promote waste reduction, reuse and recycling, while promoting energy and resource conservation, waste reduction and conscientious waste processing, with the goal of creating an environment-conscious recycling society.
- (2) We will perform environmental and safety reviews at every stage of planning, development and design, in order to provide products that fully comply with environmental protection aims.
- (3) At every stage of production, distribution, use and disposal, we will actively introduce materials and equipment that are effective in protecting the environment, strive to develop and improve technologies in this area, and work to minimize environmental burdens.
- (4) We will meet targets for reduction of environmental burdens and use of harmful substances, and continue to improve our environmental management system through environmental audits and other means.
- (5) We will develop and follow a rigorous code of standards, in addition to observing all environmental conservation treaties, national and regional laws and regulations.
- (6) We will conduct ongoing education programmes to further employee knowledge of environmental issues and promote employee involvement in environmental activities.
- (7) We will provide Nikon Group companies and suppliers with guidance and information to promote optimal environmental protection activities.
- (8) We will participate actively in the environmental protection programmes of society at large, and implement information disclosure.



The Nikon Environmental Symbol

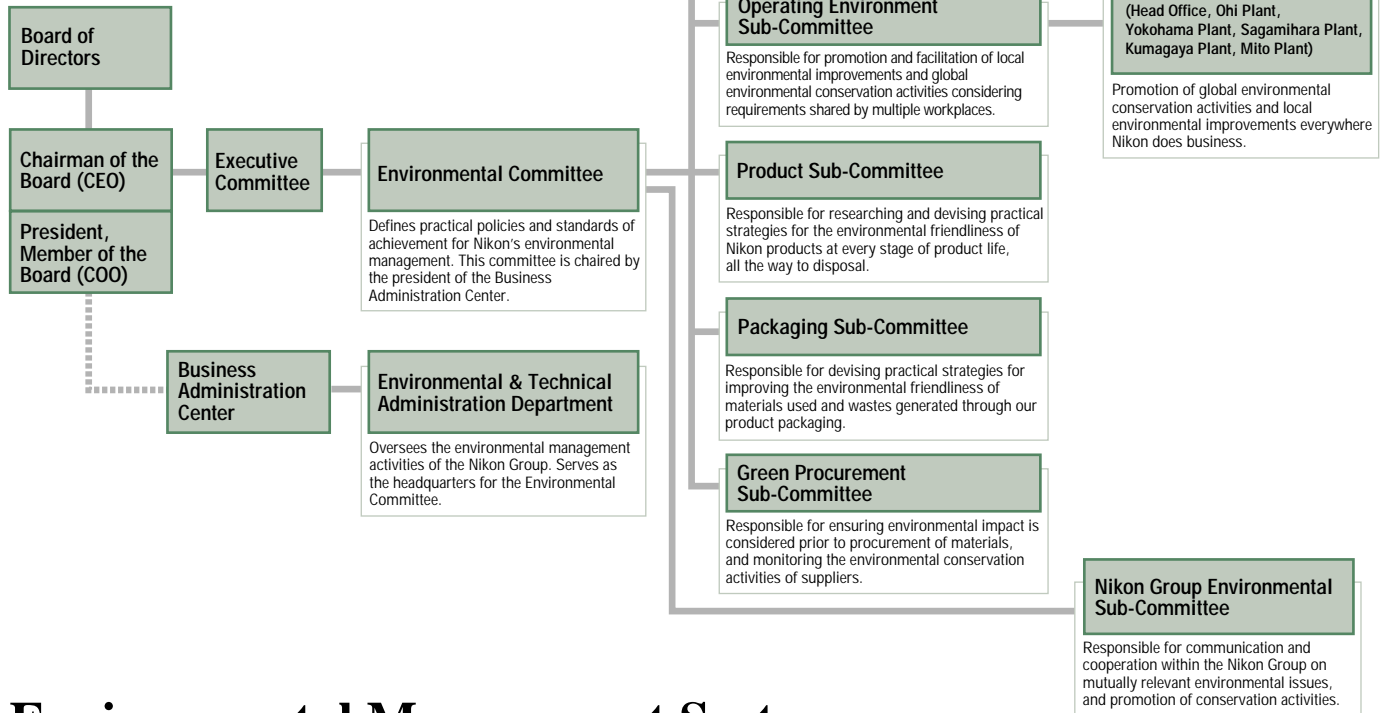
This symbol was created and introduced in 1998 to represent the environmental conservation and improvement activities being undertaken by the Nikon Group.

Environmental Management Organisation

Nikon first entered into environmental protection activities in 1970, when it formed its “First Pollution Response Committee”. This committee was renamed the “Pollution Prevention Committee” in 1971, and again in 1973 to be known as the “Environmental Improvement Committee”. This gave birth to our programme of more practical environmental conservation activities.

The environmental management organisation was restructured in 1992 with the enactment of the “Nikon Basic Environmental Management Policy”, and in 1999, as part of the expansion of and adjustments to the system, we established an “Environmental &

Technical Administration Department” within the company. The current environmental management organisation ensures that we are constantly kept abreast of new domestic or international laws, treaties or regulations, or modifications to existing ones, as well as the ever-changing needs of society.



Environmental Management System

In September 1996, an international standard on environmental management systems (ISO 14001) was officially introduced by the International Standards Organisation. The intention of the standard is to promote the self-improvement of environment-related aspects of corporate activities, with the United Nation’s policy for ensuring the sustainable development of the human race as its foundation.

The Nikon Group’s current environmental status and schedule for obtaining ISO certification are indicated below, along with each facility’s main activities. The organisation that performed the evaluation for each location was BVQI (Bureau Veritas Quality International, based in the UK).

Through earning this certification and our dedication to our environmental activities, we have not only achieved improved levels of environmental management, but have also become stricter in our classification of waste, significantly increased our recycling rate for paper, reduced our output of paper and other forms of refuse, and intensified our promotion of energy-conserving measures.

This Environmental Management System functions together with the quality standards set forth in ISO 9000 guidelines — for which each business unit has received certification — allowing us to meet our customers’ needs while showing consideration for the environment, and at the same time supplying high-quality products.

Location	Date of Approval	Primary Activities
Ohi Plant	July 1998	Development of basic technology, development and design of Imaging Company products
Kumagaya Plant	August 1998	Development, design and manufacture of IC steppers
Sagamihara Plant	August 1998	Manufacture of optical glass, research and development of lenses
Yokohama Plant	October 1998	Development, design and manufacture of Instruments Company products and LCD steppers
Mito Plant	April 1999	Development of manufacturing technology, production of customised products
Sendai Nikon Corporation	March 1997	Manufacture of cameras and LCD steppers
Zao Nikon Co., Ltd.	March 1999	Manufacture of component devices for IC/LCD steppers, surveying instruments
Tochigi Nikon Corporation	September 1999	Manufacture of IC/LCD steppers, various optical lenses
Nasu Nikon Co., Ltd.	December 1999	Manufacture of ophthalmic lenses
Aichi Nikon Co., Ltd.	December 1999	Manufacture of ophthalmic lenses
Kurobane Nikon Co., Ltd.	December 1999	Manufacture of lenses for microscopes, profile projectors and surveying instruments
Mito Nikon Corporation	December 1999	Manufacture of component devices for IC/LCD steppers, cameras
Nikon Logistics Corporation	March 2002	Logistics



The Certificate of Approval awarded to the Ohi Plant

Environmental Accounting

Nikon introduced its first comprehensive environmental accounting system in fiscal 2001. Environmental accounting involves accounts that show the cost and the effects of environmental conservation activities. Through the introduction of environmental accounting, we aim to improve the effectiveness of our conservation activities,

Features

Nikon's environmental accounting features the classification of environmental costs and effects in line with our environmental preservation activities.

Basic Policy

The figures contained in our environmental accounts for fiscal 2002 are for Nikon Corporation only. Environmental costs (investments and expenses) are based on Nikon environmental targets and measures, as well as standards set forth in the Environmental Accounting Guideline (2002 version) of the Japanese Ministry of the Environment.

and implement sustainable environmental policies over the long term with quantifiable results. We are also working to heighten awareness of our environmental conservation activities, through the publication of related information and the clarification of our stance on the environment.

Development

We established an "Environmental Accounting Sub-Committee" within the "Environmental Committee" in June 2000, with the aims of creating an environmental accounting system and an appropriate means of operation. This Sub-Committee is active on an ongoing basis.

Effects

The effects of our environmental activities are shown under the heading "Results through Fiscal 2002" on the Environmental Action Plan on the next page. These results are the actual results of strategies implemented in response to our environmental target values.

Cost of Environmental Conservation (Fiscal 2002)

Unit: millions of yen

Category		Main Activities	Investment	Expenses	Total
Product environment	Product development: Energy conservation, reduced use of resources, reduction in use of harmful chemical substances, ozone layer protection	Energy-saving design, switch to hot-runner moulds, design products for use with eco-glass	-	46	46
	Containers and packaging	Reduction in use of plastics in packaging materials	-	12	12
	Green procurement	Operation of green procurement guide	-	2	2
	Product Environmental Accounts		-	60	60
Workplace environment	Energy conservation	Replacement of air conditioning systems, installation of inverters	227	43	270
	Resource recycling	Recycling of waste plastics, promotion of paper reuse, reducing water use	32	33	65
	Reduction in use of harmful chemical substances	Promotion of use of alternative solvents, refurbishment of wash machines	10	19	29
	Workplace Environmental Accounts		269	96	365
Response to laws and regulations		Operations management for gas and water emissions processing equipment, maintenance of noise and vibration-emitting facilities, waste management, control of dangerous substances	234	472	706
Management activities		ISO 14001 related (EMS management, workplace education), introduction of greenery	71	396	466
Total			574	1,023	1,597

Classified According to Guidelines of Ministry of the Environment (Fiscal 2002)

Unit: millions of yen

Category	Details	Investment	Expenses	Total
Cost within business area		503	568	1,071
Pollution prevention costs	Operations management for gas and water emissions processing equipment, maintenance of noise and vibration-emitting facilities	107	287	394
Global environment conservation costs	Energy conservation, reduction in use of harmful chemical substances, control of dangerous substances	327	119	446
Resource recycling costs	Waste reduction (recycling of waste plastics, promotion of paper reuse), waste management, reducing water use	70	161	230
Upstream/Downstream costs	Containers and packaging measures (reduction of plastics in containers and packaging materials)	-	14	14
Management activities costs	ISO 14001 related (EMS management, workplace education)	-	393	393
R & D costs	Energy-saving design, switch to hot-runner moulds, design products for use with eco-glass	-	46	46
Social activity costs	Financial sponsorship for a wide range of activities	-	2	2
Environmental damage costs	Processing contaminated soil	71	0	71
Total		574	1,023	1,597

Scope of Data:
Nikon Corporation
(Non-consolidated)
Applicable Period: April 1,
2001 to March 31, 2002

* Costs which could not be clarified are in principle not included in these accounts.
* Depreciation and amortisation have not been factored into these accounts.
* Where a facility has been utilised for several purposes and breakdown is considered complex, the entire cost has been included in the investment cost.
* All costs have been rounded up or down to the nearest whole number, so in some cases the totals do not match the figures indicated.

The Ongoing Challenge

In addition to trying to collect environmental cost data more quickly and efficiently, we are also aiming to improve our methods for gauging the effects of our activities, so that we can clearly illustrate the relationship between cost and effect. Furthermore, we are

considering more extensive environmental accounting training, and looking at ways in which environmental accounting procedures could be put into use by our manufacturing subsidiaries, whose environmental impact is relatively significant.

Environmental Action Plan

Nikon implemented its corporate policy statement for group activities, known as “Vision Nikon 21”, in March 2000. This was the basis for the midterm environmental targets we specified in our “Nikon Environmental Action Plan 21 for Fiscal 2001”. Now we have the revised plan, “Nikon Environmental Action Plan 21 for

Fiscal 2003”, which separates the targets into 13 categories representing the product and workplace environments as shown below. The results achieved to fiscal 2002 are shown on the right.

Nikon is committed to reaching every one of the targets during the coming period.

The Nikon Environmental Action Plan 21 for Fiscal 2003

Product Environment

Theme	Midterm environmental targets	Results through fiscal 2002	Evaluation
1. Energy conservation (prevention of global warming)	<ul style="list-style-type: none"> Improvement in energy efficiency of 30% or greater for functions on products newly released during fiscal 2003, compared with products sold since fiscal 1998. 	<ul style="list-style-type: none"> 14 out of 20 products selected from among products newly released during fiscal 2002 achieved a 30% or greater improvement in energy efficiency. Some examples are introduced on pages 12 and 13. 	○
2. Reduction in use of harmful chemical substances	<ul style="list-style-type: none"> Use of eco-glass in 90% or more of all optical designs in fiscal 2003. Begin employing lead-free solder in Printed Circuit Boards from fiscal 2003, progressing so that in fiscal 2006, 100% of PCBs in consumer products and 50% of PCBs in industrial products will be lead free. 	<ul style="list-style-type: none"> Usage levels reduced to 78% in fiscal 2002, compared with 86% in fiscal 2001. Lead-free Electronic Components Committee established and activities initiated. 	△ —
3. Ozone layer protection	<ul style="list-style-type: none"> Reduction of models using ozone layer-damaging HCFC, used as refrigerant for IC and LCD steppers to fewer than 30% of all products shipped in fiscal 2003, with ultimate goal of total elimination of use of HCFC by the end of fiscal 2005. 	<ul style="list-style-type: none"> Rate of models shipped utilising HCFC has fallen to 46% in fiscal 2002, compared with 75% in fiscal 2001. 	○
4. Containers and packaging	<ul style="list-style-type: none"> 40% reduction in plastic containers used in consumer products in fiscal 2003, compared with figures for fiscal 1999. Total elimination of non-separable multi-material for new packaging from fiscal 2001 onward. 	<ul style="list-style-type: none"> Reduction rate improved to 53% in fiscal 2002, compared with 24% in fiscal 2001. As in the previous period, no non-separable multi-materials were used. 	○ ○
5. Green procurement	<ul style="list-style-type: none"> Increase suppliers' average environmental conservation evaluation by 20 points by the end of fiscal 2003, compared with fiscal 2000. 	<ul style="list-style-type: none"> Evaluation of suppliers' environmental conservation rose by an average of seven points, compared with fiscal 2000. 	○

Workplace Environment

Theme	Midterm environmental targets	Results through fiscal 2002	Evaluation
1. Energy conservation (prevention of global warming)	<ul style="list-style-type: none"> 20% or better reduction in energy consumption per net sales in fiscal 2003, compared with figures for fiscal 1999. 	<ul style="list-style-type: none"> Reduction rate fell to 16% level in fiscal 2002, compared with 29% in fiscal 2001. 	△
2. Waste reduction	<ul style="list-style-type: none"> Develop zero-emission system for at least two plants by the end of fiscal 2003, and for all plants by the end of fiscal 2005. Boost waste recycling rate to at least 85% in fiscal 2003. Reduce amount of waste generation per net sales by at least 40% in fiscal 2003 compared with figures for fiscal 1999. 	<ul style="list-style-type: none"> Sendai Nikon Corporation developed a zero-emission system in fiscal 2002. Improved to 78% in fiscal 2002, compared with 74% in fiscal 2001. Reduction rate fell to 19% in fiscal 2002, compared with 28% level in fiscal 2001. 	○ ○ △
3. Reduction in use of harmful chemical substances	<ul style="list-style-type: none"> Reduce use of chlorinated organic solvents in wash by at least 70% in fiscal 2003, with goal of elimination of these solvents by the end of fiscal 2006. 	<ul style="list-style-type: none"> Reduction rate improved to 62% in fiscal 2002, compared with 41% in fiscal 2001. 	○
4. Green procurement	<ul style="list-style-type: none"> Increase the number of new or replacement ecological office supplies by at least 300 over fiscal 2001 level, by the end of fiscal 2003. 	<ul style="list-style-type: none"> 259 new ecological items added since fiscal 2001. 	○

Symbols: Circle indicates progress on-schedule; triangle denotes insufficient effort.

Activities in the Product Environment

Product Assessment

To minimise the adverse environmental effects of our products throughout their life cycles (see diagram to right), Nikon formulated its own product assessment system in 1995. This system makes it possible to quantify the degree of reduction of environmental impact during product development.

From 1995 we implemented this system in all product development and design departments, in order to gradually decrease environmental loading caused by our products.

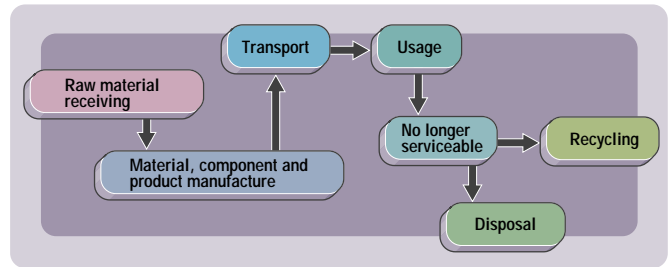
Features of Nikon Product Assessment System

- Priority placed on reducing consumption of resources and energy; recycling; long product life; reduction in use of harmful substances; reduction and simplified processing of waste; disclosure of material information.
- Advance survey and investigation of emerging environmental issues and regulations in each country, and development of Nikon standards that take the characteristics of our products into account.
- Formulated after thorough discussion among product development teams, material engineers and other related personnel.
- Make product assessment mandatory in design reviews and related phases of product development sequences, with procedures and standards clearly defined.
- Continuous revision through item addition and improvement; Version 4 is currently in use.
- Vigilance in product improvement from one model to the next.
- Support designers by building and maintaining an environmental database of material information (eco-glass, flame retardants, etc.), explanatory text and documentation.

Contents of the Nikon Product Assessment

- Continuing reduction in product mass, volume, part count and power consumption.
- Pursuit of extended product life and simpler repair.
- Promotion of recycling of harmful batteries (simplified removal, content marking and explanations).
- Elimination of specific brominated flame retardants (suppression of dioxin in waste processing).
- Reduce use of vinyl chloride (added chlorine and lead, cadmium and phthalates can cause problems after waste disposal).
- Elimination of ozone layer-depleting substances (specified CFCs and alternative substances).
- Marking of materials used (compliance with ISO 11469 international plastic marking standard, parts marking).
- Reduction in use of harmful substances.
- Simplified separation of plastics and metals.
- Reduction in amount of waste generated from consumables; appropriate customer guidance on waste processing.
- Use of optical glass free of lead and arsenic in optical system components such as lens elements (see page 11).
- Strict observance of environmental laws and regulations.
- Overall assessment (comments on degree of improvement, overall assessment points, etc.).

General life cycle for Nikon products



Nikon Product Assessment Record

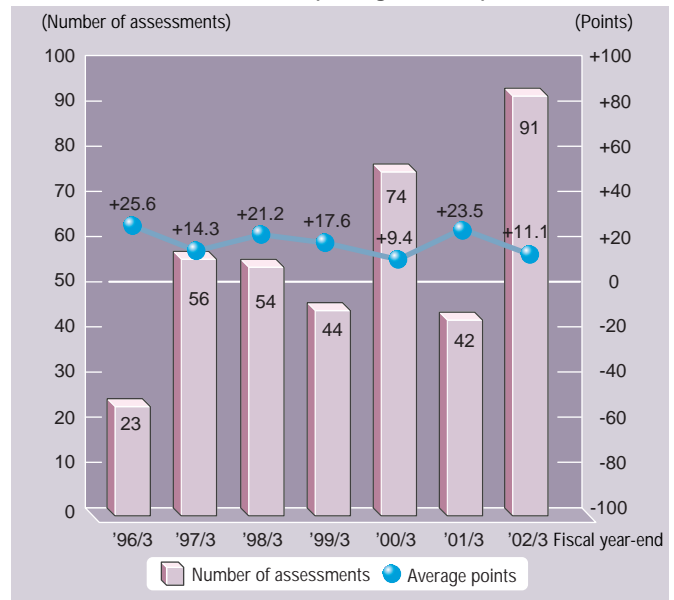
In all Nikon product categories, products are assessed at all stages of development, including prototype and mass production. Efforts to improve environmental friendliness are constant.

If a product shows improvement in terms of environmental friendliness when compared with the prior model, assessment points are awarded. If the product is about the same, no points are given. If it has deteriorated, points are subtracted. The assessment point scale ranges from -100 to +100.

For the seven-year period from fiscal 1996 to fiscal 2002, a total of 384 products were assessed under this programme, with an average assessment of +15.6 points.

Nikon is continuing its efforts to improve and enhance the functionality and performance of all of its products, while releasing new products to world markets, and this assessment indicates that our environmental efforts are gradually being rewarded.

Product Assessment Results (through FY2002)



Environmentally Sound Optical Glass (eco-glass), Lead-free Solder

Targets

- Use of eco-glass in 90% or more of all optical designs in fiscal 2003.
- Begin employing lead-free solder in Printed Circuit Boards from fiscal 2003, progressing so that in fiscal 2006, 100% of PCBs in consumer products and 50% of PCBs in industrial products will be lead free.



Nikon began full-scale work on the development of eco-glass, the environmentally sound optical glass free of lead and arsenic, in 1995. We are employing this new glass in all of our product categories such as IC steppers, cameras and microscopes that incorporate optical systems.

History of Eco-glass Development

Since Nikon was established in 1917 as the first optical glass manufacturer in Japan, we have placed a high priority on the development and manufacture of optical glass designed for use in optical equipment.

As part of our anti-pollution efforts, in the 1970s we developed a new composition for optical glass totally free of cadmium, a toxic material.

In the 1990s, to contribute to the resolution of global environmental problems, we thoroughly reexamined compositions of optical glass bearing in mind the possible effects on the environment. The majority of 70 to 100 types of optical glass contained lead and arsenic. We have recognised that this fact is one of the most significant environmental aspects of our business activities and products. Therefore, we decided to develop a new

Eco-glass Development Highlights

- Fiscal 1996 Eco-glass development project launched full-scale.
- Fiscal 1998 Eco-glass-related items added to Nikon product assessments.
- Fiscal 1999 Eco-glass database completed; employed across the board in optical design.
- Fiscal 2000 Development of eco-glass composition about 80% complete; eco-glass used in 77.1%* of new optical designs.
- Fiscal 2001 Development of eco-glass composition complete; eco-glass used in 86.1%* of new optical designs.
- Fiscal 2002 Eco-glass used in 78.1%* of new optical designs.

The rates of eco-glass utilisation* in new optical designs in various fields are as shown below.

	Fiscal 2000	Fiscal 2001	Fiscal 2002
IC steppers	77.4%	84.2%	73.5%
Cameras and digital cameras	75.4%	82.0%	81.0%
Microscopes and measuring instruments	67.8%	88.4%	83.8%
Surveying instruments, customised products, others	80.8%	90.8%	94.4%
Future product development	100.0%	95.7%	90.8%
Nikon overall	77.1%	86.1%	78.1%

*Rates are calculated based on component units.

Introducing Lead-free Solder

As part of our efforts to minimise the use of harmful substances, Nikon is planning to replace existing lead-tin alloy solder with new lead-free solders made from alloys such as tin-silver-copper.

As one step in implementing this strategy, during fiscal 2002 our Yokohama Plant installed a high-performance reflow furnace for lead-free soldering. After extensive trials in mounting various circuit board types, this furnace will be used for volume production.

An environmental action plan has been developed for future product plans.

See page 9

Nikon offers an extensive range of optical equipment and, given this diversity, some products incorporate parts that may not accommodate eco-glass. As far as technically possible, however, we intend to switch over to the new material. We will take the same stance in replacing solder that contains lead with lead-free solder.

environmentally sound glass and employ it in our products.

We demanded that the new glass offer optical performance at least equalling that of the glass in use. As such, the optical glass development department and the optical design department initiated a joint effort to investigate a variety of new compositions and design factors. After development was completed and the supply stance solidified, we began introducing eco-glass into our products. In fiscal 1999, the new glass was used across the board in the optical design department.

Nikon is working to minimise the possible pollutants (air, water, soil and waste disposal sites) used in optical glass, including lead and arsenic, as far as possible throughout the entire product life cycle (raw material production, manufacturing, use and disposal).



Lenses and prisms made with eco-glass

Eco-glass development

The R&D expenditures for the development of environmentally sound optical glass were as follows:

Fiscal 1997	¥21 million
Fiscal 1998	¥82 million
Fiscal 1999	¥145 million
Fiscal 2000	¥148 million
Fiscal 2001	¥14 million



High-performance reflow furnace for lead-free soldering

Examples of Environmentally Friendly Product Development

The entire Nikon group is implementing the “Nikon Product Assessment” to create new products which offer enhanced power consumption efficiency, are smaller and lighter, use less harmful

substances, and utilise eco-glass. We believe these improvements will be most beneficial to the global environment. Here are a few examples:

Precision Equipment Company Products

● KrF excimer scanning IC stepper NSR-S206D

Overall power consumption efficiency is improved thanks to the enhancements in resolution, total alignment accuracy and throughput combined with efforts to minimise the increase in power consumption.

Design modifications made it possible to change the supported wafer from 200mm to 300mm, providing new-generation semiconductor manufacturing capabilities without the need to replace equipment, and enabling continued use of existing assets.

<Power consumption efficiency> Increased by more than 120% over the NSR-S202A in exposure of a 200mm wafer (internal reference).

<Ozone layer protection> New HFC refrigerant with zero ODP (Ozone-depletion Potential) used for temperature control and air conditioning chillers.

<Global warming substances> New HFE refrigerant with low global warming potential used in equipment internal cooling.

Nikon steppers lead the IC industry with highly integrated circuits, greatly contributing to revolutionary improvements in resource usage efficiency.



NSR-S206D

Imaging Company Products

1. Film-based cameras and interchangeable lenses

● Nikon F55

Each component of the entire mechanism was redesigned to attain a product even more compact than the Nikon F65, which itself earned extensive praise for its small size and light weight.

<Product volume> 9% smaller than Nikon F65 <Product mass> 10% less than Nikon F65



F55

● Lite · Touch Zoom 130ED QD

Achieved major reductions in size, weight and component count by adopting a new single-motor design and smaller mechanisms.

<Product volume> 12% smaller than Lite · Touch Zoom 120ED QD

<Product mass> 10% less than Lite · Touch Zoom 120ED QD

<Component count> 7% fewer than Lite · Touch Zoom 120ED QD



Lite · Touch Zoom 130ED QD

● AF Zoom-Nikkor 28-100mm f/3.5-5.6G

New optical and mechanical systems feature a simple two-group zoom that significantly reduces the component count to achieve the world's lightest AF28-100mm class zoom lens (as of June 2002).

<Product volume> 45% smaller than AF Zoom-Nikkor 28-105mm f/3.5-4.5D IF

<Product mass> 46% less than AF Zoom-Nikkor 28-105mm f/3.5-4.5D IF

<Eco-glass usage> 100%



AF Zoom-Nikkor 28-100mm f/3.5-5.6G

2. Digital cameras

● D1x

Consumption of all circuits was reviewed and slashed substantially by moving to a finer ASIC design rule and switching to an LED backlight for the LCD.

<Power consumption efficiency> 50% higher than D1

● D100

Streamlined circuits, downed clock rate and components with lower operating currents provided a major reduction in power consumption.

<Power consumption efficiency> 200% higher than D1

● COOLPIX 5700

Lightest digital camera with a high-magnification lens and 5.0 effective megapixels. Energy-saving design features dedicated EN-EL1 rechargeable batteries that provide 90 minutes of continuous operation from a full charge.

<Eco-glass usage> 100%, including projection lens



D1x



D100



COOLPIX 5700

Targets

- Improvement in energy efficiency of 30% or greater for functions on products marketed during fiscal 2003, compared with products sold since fiscal 1998.
- Reduction of models using ozone layer-damaging HCFC, used as refrigerant for IC and LCD steppers to fewer than 30% of all products shipped in fiscal 2003, with ultimate goal of total elimination of use of HCFC by the end of fiscal 2005.



Instruments Company Products

• Biological microscope ECLIPSE TE2000

Offers a diverse range of options to satisfy a wide range of market needs, from laser system applications to use on electric drives for optical elements. Enhancing this versatility, users can upgrade their systems at any time by adding optional components — assuring them of a microscope that will serve their needs for years to come.

<Power consumption efficiency> 14% higher than the previous model TE300 (*observed field brightness/consumed power)
(Observed field brightness measured for various types of observation, with frequency of use factored in for each.)
<Eco-glass usage> 90% (0% in TE300)



ECLIPSE TE2000

• CNC video measuring system NEXIV VMR-3020

This high-precision, high-speed video measuring system features a newly developed objective lens with superior resolution and long working distance. The new eight-segment LED ring illuminator (previous model MZ-V250 used four halogen lamps) delivers optimum illumination to every workpiece while providing a long service life and reduced power consumption. Nikon's sophisticated optical system, high-speed stage and high-speed control technology have significantly boosted throughput, thereby greatly improving power consumption efficiency.

<Power consumption efficiency> 300% higher than MZ-V250
<Resin materials> No brominated flame retardants (PBDPE, etc.) used, ISO 11469 compliance label
<Consumables> Service life of light source extended approx. 30 times (1000 to 30,000 hours)



NEXIV VMR-3020

Nikon Group Products

• High-grade binoculars HG Series with four models, including 8x32HG DCF

The pinnacle of Nikon's binocular line, combining our most advanced optical technologies, including a proprietary wide-wavelength, low-reflection multi-coating, phase correction coating, high-reflection silver coated mirror and a field-flattener lens, with superior cold- and water-proofing. Smaller and lighter means less use of resources, and eco-glass is employed for the optics to safeguard the environment.

<Product mass> 27% less than the previous high-end model, the 8x42HG DCF
<Eco-glass usage> 100%



8x32HG DCF

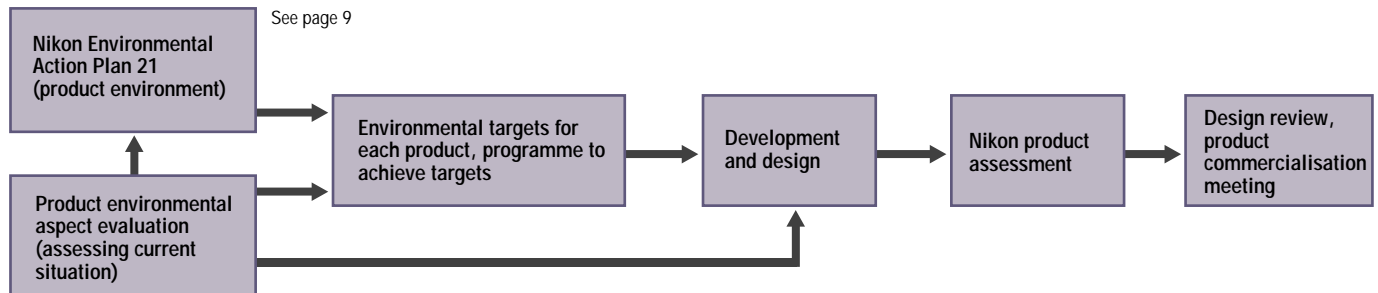
NOTE: Most of the products introduced here were released in Japan during fiscal year 2002.

Future Activities

We have established a rigorous system for environment-oriented design activities and enhancement of the ISO 14001-compliant environmental management system as shown below, and are applying this system to the development of products which will

display an entirely new level of environmental friendliness.

In addition to using lead-free solders, we are striving to develop products that are free of harmful heavy metals and vinyl chloride.



Activities in the Product Environment

Containers and Packaging

Targets

- 40% reduction in plastic containers used in consumer products in fiscal 2003, compared with figures for fiscal 1999.
- Total elimination of non-separable multi-material for new packaging from fiscal 2001 onward.



Nikon defined its “Environmental Policy Regarding Packaging Materials” in May 1998, and reviewed it in June 2000. This policy has seven main points:

1. Elimination of harmful substances
2. Reduction in volume and content
3. Recyclability
4. Safety and ease of separation of

materials

5. Use of recycled resources
6. Reusability
7. Marking regarding packaging materials and handling precautions

The activities implemented based on this policy are as described in the following chart:

Theme	Policy	Contents	Application
Non-vinyl chloride film	1. Elimination of harmful substances	Switch from use of vinyl chloride material, which is considered a major source of dioxin, to non-vinyl chloride materials such as polypropylene.	Wrapping materials for equipment such as steppers
Plant-derived filler materials	2. Reduction in volume and content	Plant-derived filler materials are made from bean and wheat husks. They are significantly safer and more environmentally friendly filler materials than those derived from crude oil. We also use biodegradable resins in packaging containing filler materials.	Gap filler (Instruments Company products)
Cushioning film	2. Reduction in volume and content	Support with elastic film enables significantly reduced consumption of cushioning material.	Cameras
Reinforced cardboard boxes	2. Reduction in volume and content 3. Recyclability 5. Use of recycled resources	Adoption of reinforced three-layer cardboard boxes has enabled a significant reduction in weight and volume of packaging in comparison with old-style wooden boxes.	Stepper body (for shipping to certain destinations)
Single-material presentation cases	4. Safety and ease of separation of materials	Use of film in presentation cases has been eliminated. Cases are now made from paper only, for ease of breakdown and decomposition.	Accessories
Assembly-type packaging	4. Safety and ease of separation of materials	The filler material and the cardboard are assembled manually for ease of separation later. Old-style packaging involved a fusing of different materials (cardboard and a crude-oil derived filler material).	Instruments Company products
Pulp moulding	5. Use of recycled resources	A paper filler material consisting of 55% recycled paper. This material is gradually being introduced as an alternative to crude oil derivatives.	Cameras, lenses, microscopes
Dedicated transport containers	6. Reusability	Dedicated containers are used for shipment to certain corporations.	Microscopes
Polyethylene bags	7. Marking regarding packaging materials and handling precautions	All packaging material is marked to facilitate separation. All bags, other than those of extremely small size, are marked with a warning of suffocation risk to infants.	



Cushioning film



Reinforced cardboard boxes



Pulp moulding

So far, we have achieved the following in our challenge to meet targets:

- Significant reduction in use of plastic containers and packaging for consumer products — 53% in weight against fiscal 1999 levels, through progressive use of pulp moulding and other techniques.
- Through the use of single-material presentation cases and assembly-type packaging, as well as other methods, from fiscal 2001 through 2002 we achieved our target of eliminating the use of non-separable multi-material for new packaging in fiscal.

Activities in the Product Environment

Examples of Implementation in Sales and Distribution

Nikon is working tirelessly to reduce the total and long-term environmental impact of its products and services. Since Nikon supplies products worldwide, we must also pay strict attention to

1. Sales of used steppers for reuse

Nikon has been collecting used steppers discarded by customers, and reconditioning and reselling them for new users, with the appropriate services supplied. This is an example of Nikon actively reusing its own products.

Not many steppers have been resold to date, but this business is still in its developmental stage, with consideration being given to marketability, dedication to environmental conservation, profitability and customer satisfaction.

sales and distribution activities. The following are some examples of our reuse and recycling efforts in these areas:

2. Recycling of packaging materials and batteries in Europe

(1) Packaging materials

Our overseas subsidiaries have contracted the services of DSD (Duales System Deutschland) to collect and recycle packaging materials used during the sale of Nikon products.

(2) Batteries

Our overseas subsidiaries have contracted the services of GRS (Stiftung Gemeinsames Rücknahmesystem Batterien) to collect and recycle batteries for cameras and other products discarded by consumers.

Energy Conservation (anti-global-warming measures)

Targets

- 20% or better reduction in energy consumption per net sales in fiscal 2003, compared with figures for fiscal 1999.



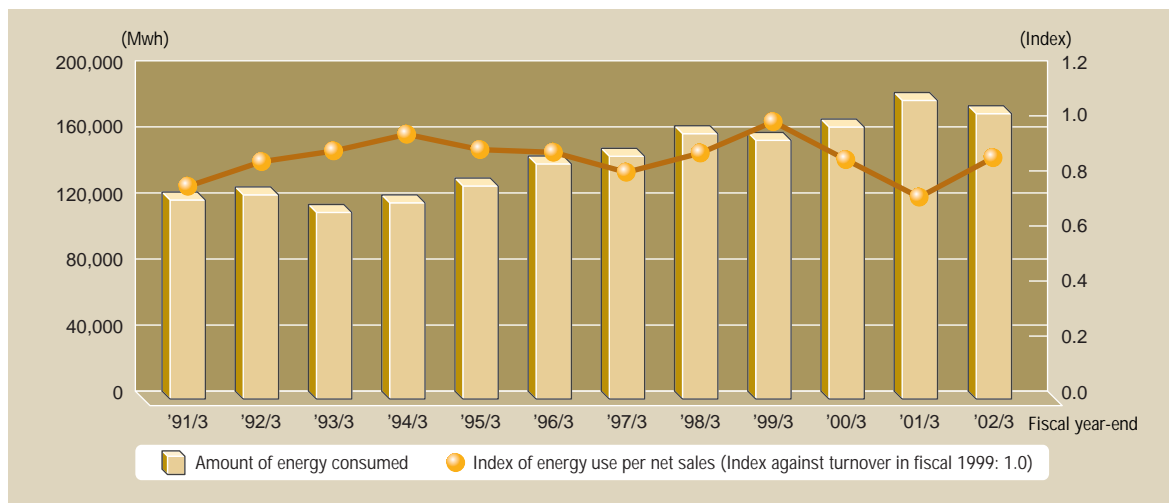
Carbon dioxide (CO₂), which is released into the atmosphere when fossil fuels are burned, is the main cause of global warming. The Third Conference of the Parties (COP 3) to the United Nations Framework Convention on Climate Change in December 1997 stressed the need for a reduction in greenhouse gas emissions. The control of CO₂ emissions through savings in energy use is one way in which global warming may be slowed.

Nikon has established a target for savings in energy use including electricity, which is a major source of CO₂ emission, of a 20% or better reduction (compared with fiscal 1999 levels per net

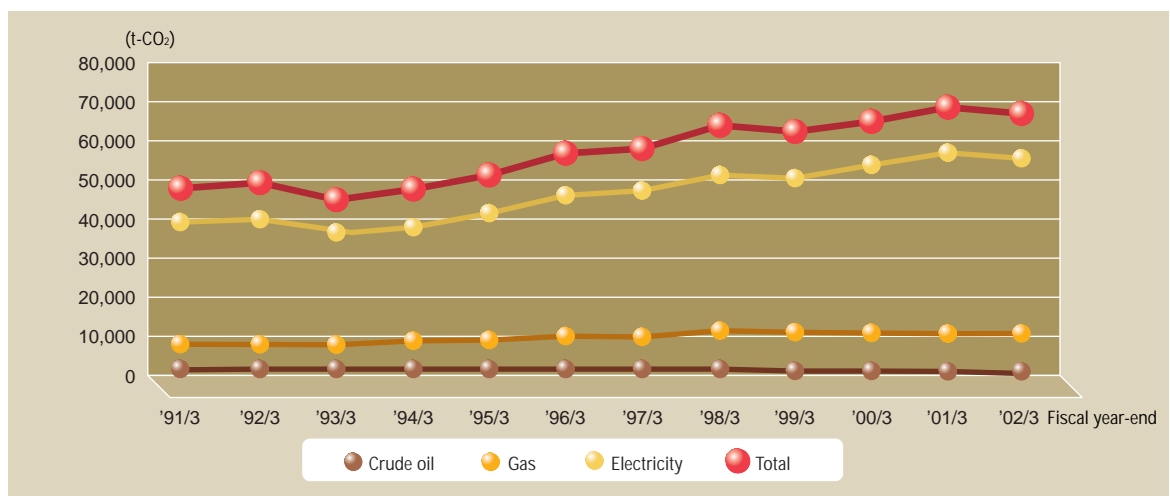
sales) by fiscal 2003.

During fiscal 2002, we improved the efficiency of our air conditioning system and switched to a lighting system that uses energy more efficiently. We have also implemented and promoted various energy-saving measures such as improvements in the manufacturing process and conscientious use of lighting and office equipment. These measures enabled a 1.5% energy saving over the previous year. Furthermore, compared with fiscal 1999, energy savings per net sales for the year were an impressive 16%.

Energy Use (calculated for electricity)/Energy Use per Net Sales



CO₂ Emission



*Standard figures for calculating CO₂ emissions are taken from the "Environmental Activities Evaluation Program" (published September 1999 by the Environment Agency, now known as Ministry of the Environment).

Future Energy-saving Strategies

We intend to implement the following strategies as we head into fiscal 2003.

- Reduction in harmful emissions from air conditioning
- Highly efficient operations of utilities facilities
- Highly efficient operation of manufacturing facilities
- Renewal of aging facilities/equipment
- Standardisation of electrical load
- Integration of electrical facilities
- Improvements in quality control efficiency

Promotion of Reduction and Recycling of Waste

The manufacturing industry, which evolved as part of the mass production/mass consumption system, is currently at a crossroads in terms of the way things are done.

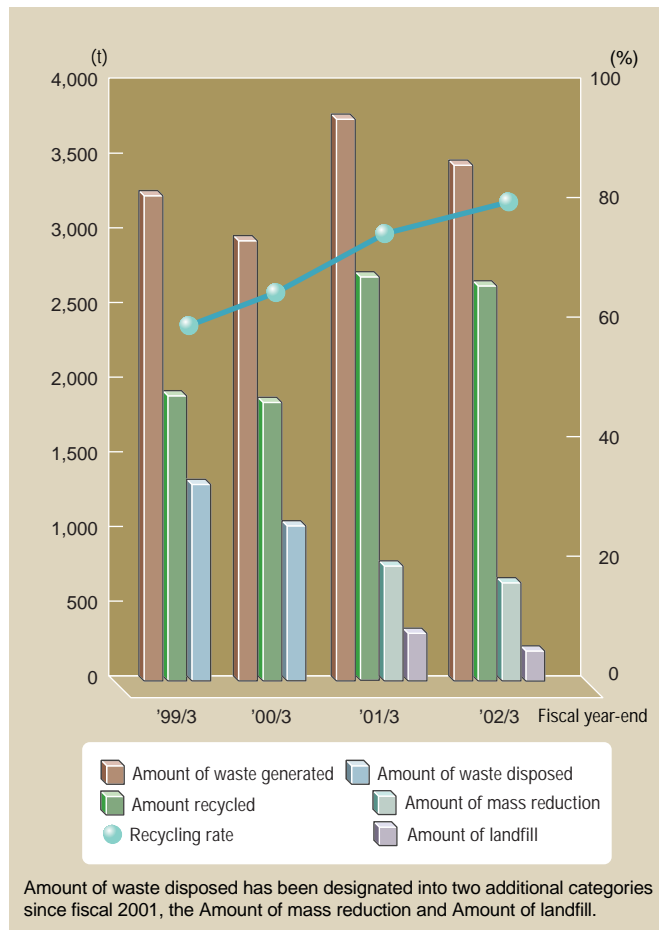
Economic expansion has brought with it yearly increases in the amount of waste produced. Waste was for too long classified as “refuse”, and simply discarded. As a result, waste has grown in amount and diversity, and there is a great deal of pressure on end-

Production, Disposal and Recycling of Waste

We implemented programmes to reduce both general and plastic waste, and strictly enforced refuse separation guidelines for this period, which enabled us to control our waste output (including that to be recycled). We also actively promoted the recycling of materials. As a result, the amount of waste disposed of during fiscal 2002 represented a 44% (592-ton) reduction against the amount recorded for fiscal 1999, and our recycling rate was 78% (up from 59% for fiscal 1999).

These results were achieved through utilising waste in RDF (Refuse Derived Fuel), raw material for furnaces and thermal recycling*1, all of which contribute to the process of recycling.

In the coming period, we will continue to achieve reductions in the amount of waste through continued emphasis on the 3R*2 principle, and developing further recycling technologies and links with recycling agencies, in order to achieve a recycling rate of 85% for fiscal 2003.



Amount of waste disposed has been designated into two additional categories since fiscal 2001, the Amount of mass reduction and Amount of landfill.

*1 The practice of using waste as solid fuel. The waste is ground and separated, and then compressed and shaped and can be used as burnable fuel.
Ground waste may be used as raw material in furnaces in place of coke.
Certain waste may be burned and the heat released used as an energy source. This contributes both to the reduction of waste and to recycling.

*2 3Rs: Reduce, Reuse and Recycle

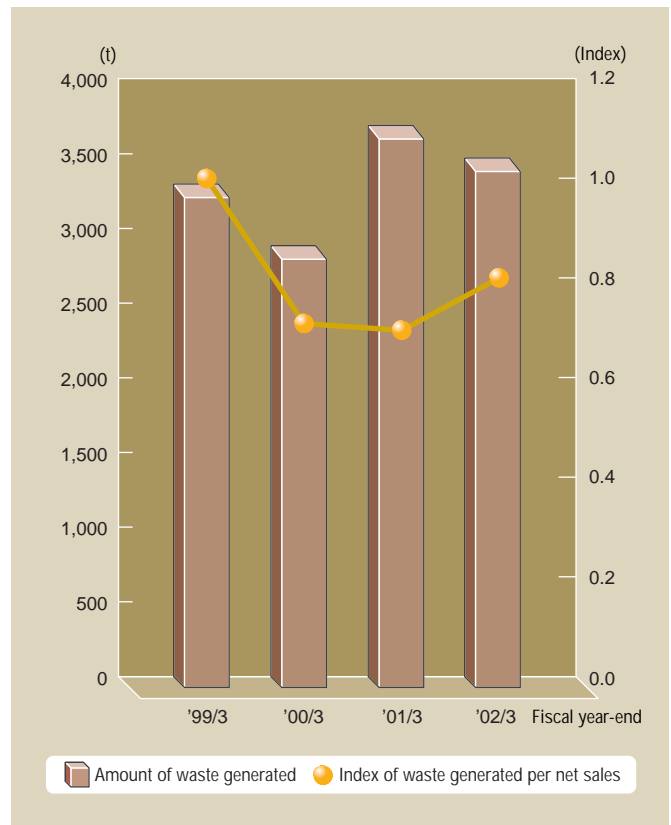
of-line disposal agencies to devise more efficient methods for disposing of waste.

Nikon is committed to the concept of a “Resource Recycling Society”, in which the world’s valuable resources are used as effectively as possible. Through our activities, we are headed in the right direction in pursuit of this objective.

Amount of Waste Generated/Amount of Waste Generated per Net Sales

Nikon has set a target to reduce waste generation by fiscal 2003 by at least 40% (compared with fiscal 1999 level per net sales).

In fiscal 2002 we reduced the tonnage of generated waste by 8% from the level of the prior year, but because the semiconductor market suffered the largest slump in history, corporate net sales also dropped. As a result, the index of waste generated per net sales dropped 19% from fiscal 1999.



Targets

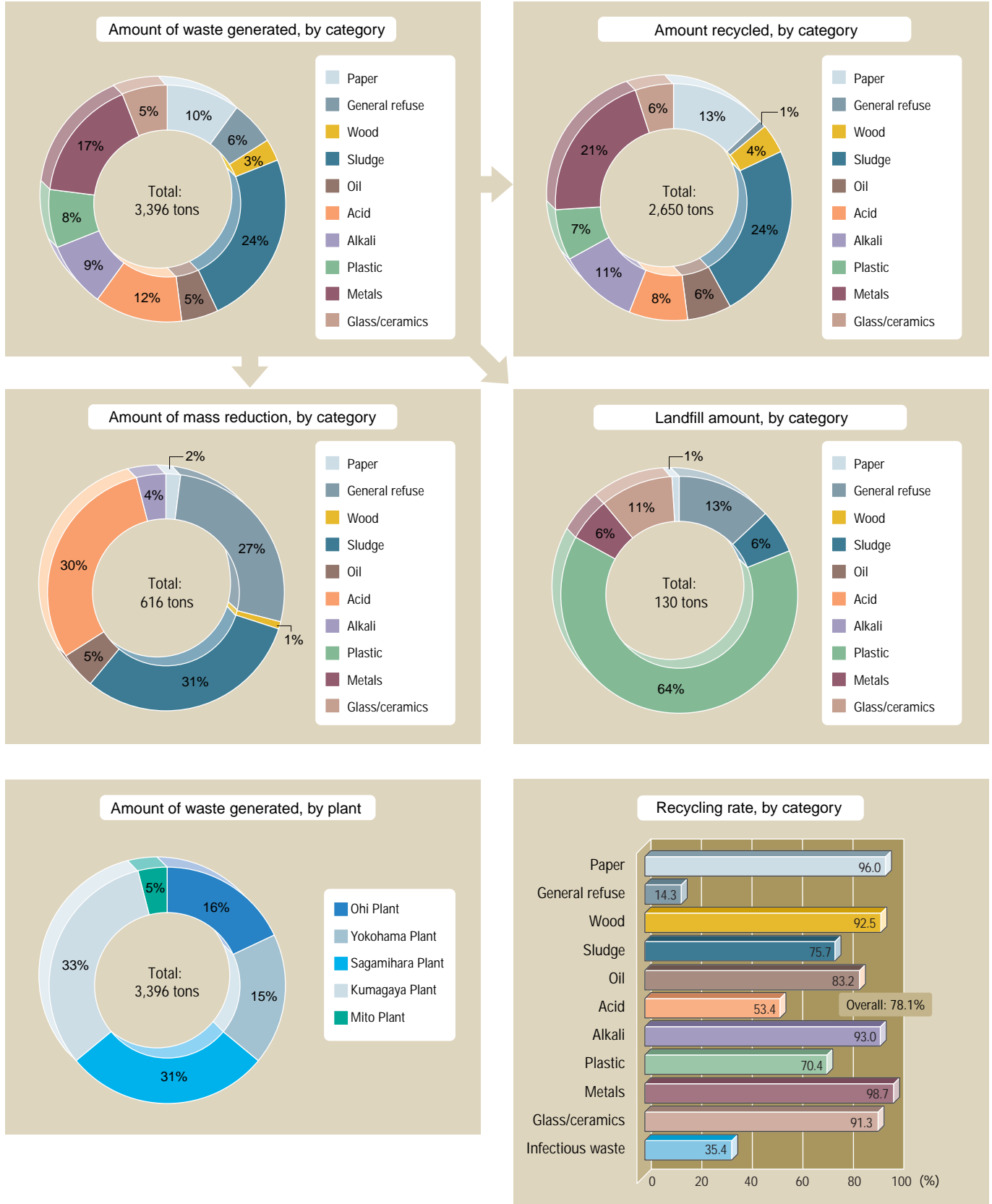
- Boost waste recycling rate to at least 85% in fiscal 2003.
- Reduce amount of waste generation per net sales by at least 40% in fiscal 2003 compared with figures for fiscal 1999.



Breakdown of Waste during Fiscal 2002

The breakdown of Nikon's waste during fiscal 2002 is as shown in the graphs below.

(Figures in the graphs have been rounded up or down to the nearest whole number, so some of the graphs do not total 100%).



Activities in the Workplace Environment

Zero Emissions

Targets

- Develop zero-emission system for at least two plants by the end of fiscal 2003, and for all plants by the end of fiscal 2005.



Nikon is actively pursuing a corporate goal of zero emissions — the reduction of waste generated by our operations and effective utilisation of all waste. Examples of recycling waste materials include reusing and recycling paper; use of wood chips in paper-

making pulp or as fuel; use of PET bottles in Refuse Derived Fuel (RDF) or as material for new bottles; use of glass as a roadbed material; and use of waste oils as auxiliary combustion agents. Our goal is to minimise landfill volumes.

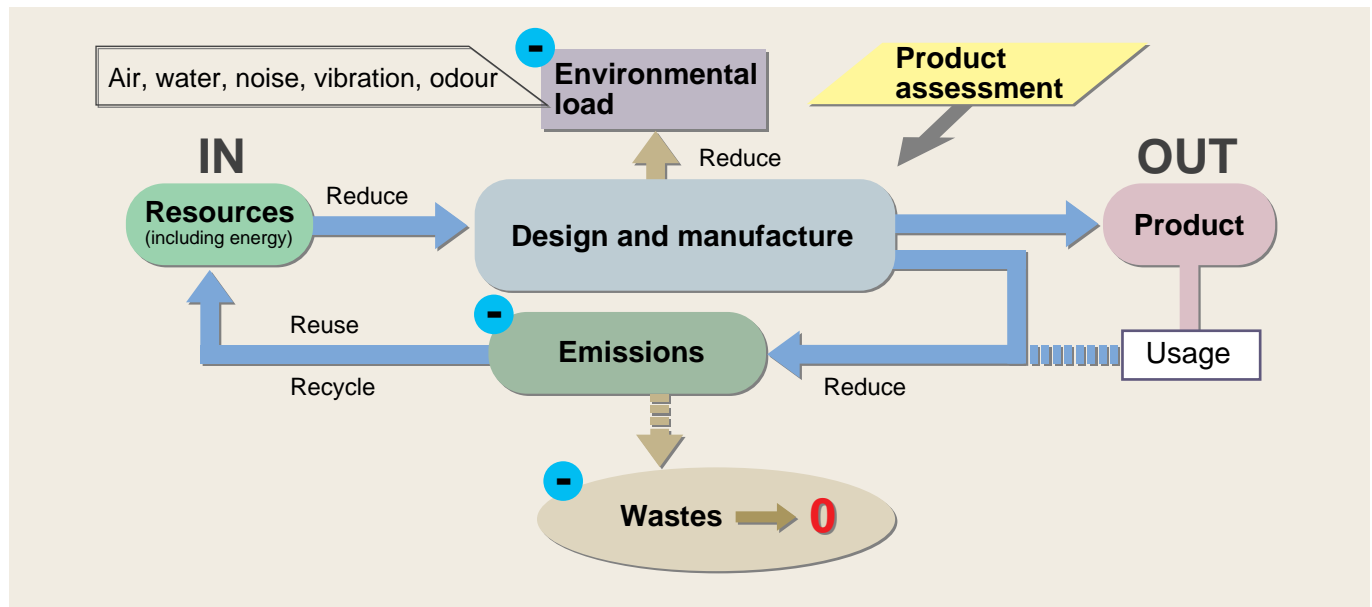
What Is Zero Emission?

The concept of “zero emission” was first developed by the United Nations University in 1994 in order to transform our society of mass production, mass consumption and mass waste into a sustainable, recycling-oriented society. It is defined as a society having total waste emissions of zero.

Priorities under the Law for Promotion of Effective Utilisation of Resources

1. Reduce
2. Reuse
3. Material Recycle
4. Thermal Recycle
5. Appropriate Processing

The zero emission concept



Zero-Emission Kick-Off Convention and Progress

The Zero-Emission Kick-Off Convention was held on September 18, 2001. It opened with the reading of the Kick-Off Declaration by Executive Vice President, Member of the Board, Yasujiro Hara (Chairman of the Environmental Committee), which marked the start of Nikon’s full-fledged efforts to achieve zero emissions.

With consideration for the fact that many landfills have exceeded their capacity, Nikon defines zero emissions as follows.

No more than 1% of total emissions will be sent to landfills
Excluding sewage, domestic wastewater, industrial wastewater, etc.

In February 2002, Sendai Nikon Corporation became the first Nikon Group firm to develop a zero-emission system. Other group companies are continuing in their efforts to complete their own zero-emission projects.



Waste compressor (Sendai Nikon Corporation)



Crusher (Mito Plant)



Sorting (Sagami-hara Plant)

Nikon plant name	Target to develop zero-emission system	Major manufacturing subsidiaries	Target to develop zero-emission system
Mito Plant	1st half of fiscal 2003	Sendai Nikon Corporation	Fiscal 2002 (completed)
Sagami-hara Plant	Fiscal 2003	Tochigi Nikon Corporation	Fiscal 2005
Ohi Plant	Fiscal 2003	Mito Nikon Corporation	Fiscal 2006
Kumagaya Plant	Fiscal 2004	Zao Nikon Co., Ltd.	Fiscal 2006
Yokohama Plant	Fiscal 2003	Kurobane Nikon Co., Ltd.	Fiscal 2007

The keys to achieving the zero-emission goal are reduction of waste emissions and improvement of transport efficiency (including sorting and reduction of volume).

Activities in the Workplace Environment

Control of Chemical Substances

Targets

- Reduce use of chlorinated organic solvents in wash by at least 70% in fiscal 2003, with goal of elimination of these solvents by the end of fiscal 2006.



Chemical substances have the potential to improve our lives in many ways, but at the same time can cause many serious problems such as ozone layer depletion, dioxin poisoning and the environmental endocrine effect — the spread of harmful elements throughout nature. In order to forestall this sort of damage, it is vital

Substance Control Procedures

Nikon performs chemical substance control at every phase of the product life cycle, from purchase through use and disposal, in order to stop pollution caused by these substances. When first purchasing a new chemical substance, we obtain a Material Safety Data Sheet (MSDS) for the item, and carry out an assessment of the potential dangers of its use in the workplace. Based on the results of this

Nikon's PRTR

The Pollutant Release and Transfer Register (PRTR) Law has been enacted in Japan as well, and daily management of chemical substances and diligent risk management are key factors in promoting business.

The "Nikon PRTR Guide" was released in March 2000, and management activity for the specified chemical substances is underway at each plant. This guide serves as a safety management standard which clearly outlines handling and disposal according to MSDS, for all product phases from procurement to use and disposal.

that the use of chemical substances be carefully controlled, that the amount of chemicals used is reduced, and that safer substances are substituted wherever possible.

Nikon is currently devising a management system that will enable us to effectively take all of these actions.

assessment, our Environment, Safety and Hygienics section performs a review and confirmation of actions taken.

In addition to these measures, our Data Centre, located at the Ohi Plant, carries out intensive management of registration, updates and storage of MSDS.

In March 2002, Nikon established a company system for legal notification, adding to and revising existing procedures for filling out such notifications.

In accordance with applicable laws, the fiscal 2002 report required reporting of quantities of five tons or more, with the only necessary notification being dichloromethane at our Sagamihara Plant.



Nikon PRTR Guide

PRTR Survey Results for fiscal 2002

Facility	Substance No.	Substance name	Volume handled	Amount released			Amount transferred		Amount in on-site landfill	Amount removed for processing	Amount shipped in product
				Air	Public water	Soil	Sewage	Waste			
Ohi Plant	145	Dichloromethane	1,285	67	0	0	0	1,218	0	0	0
Yokohama Plant	145	Dichloromethane	4,791	4,702	0	0	0	89	0	0	0
Sagamihara Plant	145	Dichloromethane	5,560	4,815	0	0	0	745	0	0	0
Kumagaya Plant	227	Toluene	2,150	2,150	0	0	0	0	0	0	0
Total	145	Dichloromethane	11,636	9,584	0	0	0	2,052	0	0	0
	227	Toluene	2,150	2,150	0	0	0	0	0	0	0

* The above table includes data only for specified substances of which one or more tons are handled per year per facility. No such substances exist at the Mito Plant.

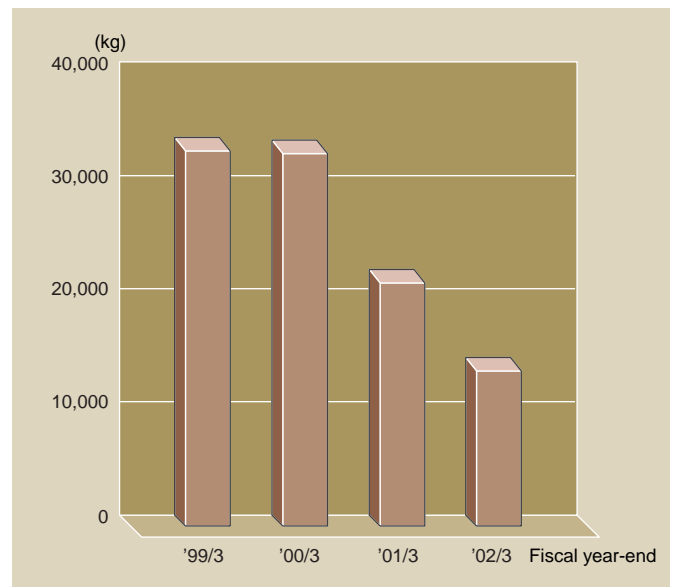
Reduction in Chemical Substances

The key question is how to best reduce the amount of chemical substances used. This is more than merely avoiding the risk of environmental pollution, and in fact signifies an improvement in Nikon's design and production systems. We are constantly working to reduce the volume of chemical substances used which have the most adverse effects on the environment, searching for alternatives, and making every effort to achieve zero chemical pollution.

Efforts to eliminate chlorinated organic solvents

We have established a target for total elimination of chlorinated organic solvents in wash applications of the end of fiscal 2006, and are now switching over to hydrocarbon wash agents and similar substances that have minimal effect on the environment.

The graph at right shows amounts used since fiscal 1999. The amount used in fiscal 2002 was 61% less than in fiscal 1999.



Prevention of Pollution and Protection of Air and Water

To help preserve air and water quality, Nikon not only observes applicable laws and regulations, but has also established its own independent plant standards for management.

Each plant regularly measures pollutants released into the air and water, and inspects equipment such as boilers and wastewater processing systems periodically to ensure safety.

Air and Water Quality Environmental Data for Fiscal 2002

Ohi Plant		Nishi-Ohi, Shinagawa-ku, Tokyo		
Air (Air Pollution Control Law, Metropolitan Regulations)				Unit: Dust: g/Nm ³ , NOx (nitrous oxides): ppm
Item	Regulatory standard	Plant standard	Actual (max.)	
Boiler	Dust	0.15	0.12	0.002
	NOx	45	45	44
*1 Occurred June 2001 (exceeded established standard) Cause: Acetic acid from laboratory insufficiently neutralized Corrective action: Task cancelled				
Water Quality (Sewerage Law, Metropolitan Regulations)				Unit: mg/l, except for pH
Item	Regulatory standard	Plant standard	Actual (max.)	
Living environment	pH	5.8-8.6	5.9-8.5	5.6-8.0 *1
	BOD	300.0	240.0	67.6
	SS	300.0	240.0	195.8
	n-hexane (animal/vegetable)	30.0	24.0	17.5
	Iodine demand	220.0	176.0	48.3
	Copper	3.0	2.4	<0.2
	Zinc	5.0	4.0	2.9
	Soluble iron	10.0	8.0	3.2
	Total chrome	2.0	1.6	<0.05
	Fluorine	15.0	12.0	2.0
	Nitrogen	120.0	96.0	76.1
	Phosphorous	16.0	12.8	1.45
Health	Cyanide	1.0	0.95	0.1
	Lead	0.1	0.08	0.04
	Hexavalent chrome	0.5	0.47	0.0
	Trichloroethylene	0.3	0.28	0.00
	Dichloromethane	0.2	0.16	0.01

Yokohama Plant		Nagaodai-cho, Sakae-ku, Yokohama, Kanagawa		
Air (Air Pollution Control Law, Prefectural Regulations)				Unit: NOx (nitrous oxides): ppm
Item	Regulatory standard	Plant standard	Actual (max.)	
Boiler	NOx	65	60	38
		65	60	35
		65	60	34
		46	42	24
		46	42	41
		46	42	24
*1 Occurred October 2001 (exceeded regulatory standard) Cause: Water used to wash out the temperature-controlled oil system was accidentally released into the plant's general waste system. Corrective action: Water drained from storage tank followed by complete wash, and company personnel trained in processing of oil-bearing wastes				
Water Quality (Sewerage Law, Prefectural Regulations, City Regulations)				Unit: mg/l, except for pH
Item	Regulatory standard	Plant standard	Actual (max.)	
Living environment	pH	5.0-9.0	5.5-8.5	6.6-7.6
	BOD	600.0	540.0	0.4
	SS	600.0	540.0	0.4
	n-hexane (mineral)	5.0	4.5	10.0 *1
	Iodine demand	220.0	200.0	25.4
	Copper	1.0	0.9	0.0
	Zinc	1.0	0.9	0.0
	Soluble iron	3.0	2.7	0.0
	Soluble manganese	1.0	0.9	0.0
	Total chrome	2.0	1.0	0.0
	Nickel	1.0	0.9	0.0
	Fluorine	8.0	7.0	0.6
	Boron	10.0	8.0	0.1
	Health	Lead	0.1	0.1
Arsenic		0.1	0.1	0.00
Hexavalent chrome		0.5	0.4	0.00
Trichloroethylene		0.3	0.2	0.00
Tetrachloroethylene		0.1	0.1	0.00
Dichloromethane	0.2	0.1	0.01	

Sagamihara Plant

Asamizodai, Sagamihara, Kanagawa

Air (Air Pollution Control Law, Prefectural Regulations)

Unit: Dust: g/Nm³,
NOx (nitrous oxides): ppm

Item	Regulatory standard	Plant standard	Actual (max.)	
Boiler	Dust	0.15	0.1	0.001
		0.15	0.1	0.001
		0.15	0.1	0.0011
		0.15	0.1	0.0018
		0.15	0.1	0.0011
		0.15	0.1	0.0032
		0.15	0.1	0.0017
		0.15	0.1	0.005
	NOx	105	100	85
		105	100	98
		105	100	80
		105	100	90
		105	100	94
		105	100	8
		105	100	8
105	100	5		

Water Quality (Sewerage Law, Prefectural Regulations)

Unit: mg/l, except for pH

Item	Regulatory standard	Plant standard	Actual (max.)	
Living environment	pH	5.7-8.7	6.0-8.0	6.4-7.4
	BOD	300.0	60.0	13
	SS	300.0	90.0	<10
	Zinc	3.0	0.5	0.03
	Fluorine	12.0	10.0	4.6
	Boron	10.0	5.0	2.29
Health	Lead	0.1	0.08	0.04
	Arsenic	0.1	0.05	<0.01
	Dichloromethane	0.2	0.1	0.014

Kumagaya Plant

Oaza-miizugahara, Kumagaya, Saitama

Air (Air Pollution Control Law, Prefectural Regulations)

Unit: Dust: g/Nm³,
NOx (nitrous oxides): ppm

Item	Regulatory standard	Plant standard	Actual (max.)	
Boiler	Dust	0.1	0.05	0.003
		0.1	0.05	0.003
		0.1	0.05	0.001
		0.1	0.05	0.003
		0.1	0.05	0.001
		0.1	0.05	0.003
		0.1	0.05	0.001
		0.1	0.05	0.002
		0.1	0.05	0.002
		0.1	0.05	0.002
		0.1	0.05	0.001
		NOx	150	100
	150		100	46
	150		100	61
	150		100	94
	150		100	94
	150		100	83
	150		100	87
	150		100	31
	150	100	43	
150	100	61		
150	100	14		

Water Quality (Sewerage Law, Prefectural Regulations)

Unit: mg/l, except for pH

Item	Regulatory standard	Plant standard	Actual (max.)	
Living environment	pH	5.1-8.9	5.9-8.2	6.8-7.6
	BOD	600.0	450.0	29.0
	SS	600.0	150.0	35.0
	n-hexane (mineral)	5.0	4.0	<1.0
	n-hexane (animal/vegetable)	30.0	30.0	1.0
	Iodine demand	220.0	220.0	73.0
	Copper	3.0	0.5	<0.2
	Zinc	5.0	0.5	<0.05
	Soluble iron	10.0	9.0	<0.3
	Total chrome	2.0	1.7	<0.2
	Fluorine	15.0	2.5	<0.5
	Nitrogen	240.0	60.0	27.0
	Phosphorous	32.0	20.0	10.0
Health	Cyanide	1.0	0.3	<0.1
	Lead	0.1	0.1	<0.01
	Hexavalent chrome	0.5	0.1	<0.05

Mito Plant

Motoishikawa-cho, Mito, Ibaraki

Air (Air Pollution Control Law, Prefectural Regulations)

Unit: Dust: g/Nm³,
NOx (nitrous oxides): ppm,
SOx (sulphurous oxides): Nm³/h

Item		Regulatory standard	Plant standard	Actual (max.)
Boiler	Dust	0.3	0.27	0.014
		0.3	0.27	0.012
		0.3	0.27	0.011
	NOx	180	162	86
		180	162	87
		180	162	84
	SOx	3.25	0.67	0.036
		3.25	0.67	0.037
		3.25	0.67	0.13

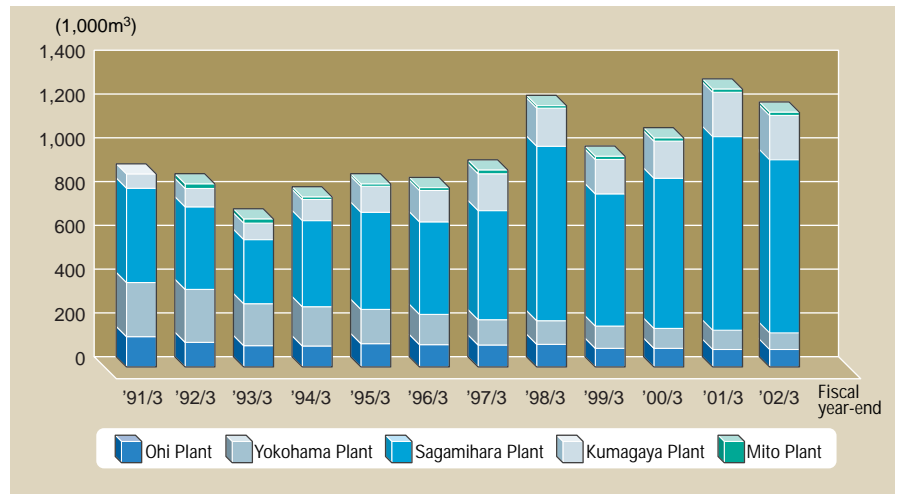
Water Quality (Water Pollution Control Law, Prefectural Regulations)

Unit: mg/l, except for pH and E. coli (colonies/ml)

Item		Regulatory standard	Plant standard	Actual (max.)
Living environment	pH	5.8-8.6	6.0-8.2	6.8-7.6
	BOD	20.0	20.0	19.0
	SS	30.0	30.0	13.0
	n-hexane (animal/vegetable)	10.0	10.0	<1
	E. coli (daily average)	3,000.0	2,700.0	132
	Nitrogen	60.0	60.0	59.9
Health	Phosphorous	8.0	8.0	7.09
	Trichloroethylene	0.3	0.3	<0.001

Water Usage

Plants engaged in manufacturing continuously expand and evolve structurally, but since the introduction of the “Environmental Management System” in fiscal 1999, efforts have been made to promote reuse of process waste water, and reduce water usage by involving all employees in water-saving activities.



Glossary

ppm: Parts per million

pH: Hydrogen ion concentration

Indicates the acidity or alkalinity of a substance, where a solution of pH 0 to 7 is acid, pH of 7 is neutral, and a pH over 7 is alkaline. A change of one pH number indicates a 10-fold change in the concentration of hydrogen ions.

BOD: Biochemical oxygen demand

The amount of oxygen required for microorganisms to oxidise and consume organic pollutants in water. Used to gauge the degree of pollution of rivers.

SS: Suspended solids

Also referred to as substances that cause water clouding, they include small particles, plankton, organism carcasses and detritus, excretions and other organic materials, as well as sand, mud and inorganics and a range of manmade pollutants.

n-hexane (mineral or animal/vegetable): Normal hexane mass

Used to measure the total content of oils and hydrocarbons in waste water, it indicates the amount of materials extracted to normal hexane and which do not volatilise at about 100°C. Covers animal and vegetable oils, fatty acids, petroleum-based hydrocarbons, wax and grease.

Iodine demand

The amount of iodine used by the reducing substances (sulphide, etc.) in waste water during iodine oxidation. It is an index of the presence of the reducing substances in waste water.



Nikon has begun a programme of green procurement, beginning with the purchase of paper and office supplies, and extending to other activities to reduce the environmental impact of our products.

The Green Procurement Sub-Committee was established within the Environmental Committee in May 1998, and in August of the same year, issued the "Nikon Basic Policy for Green Procurement". The policy's purpose is:

- To give priority to the purchase of items that have been produced by taking environmental issues into consideration.
- To give priority to suppliers who are proactive in conserving the environment.

Product Environment

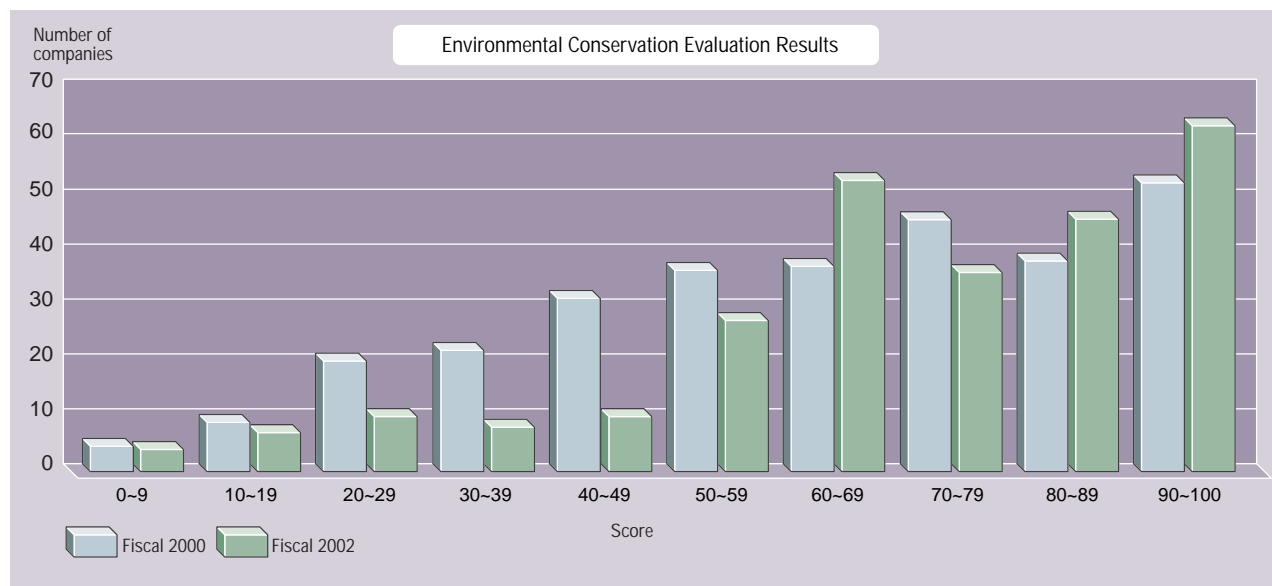
Regarding the procurement of items that will be passed on to our customers, either as Nikon products or services, we have produced a product survey for materials and parts, and another for assembled units. We use the results of these surveys in designing our products.

To promote greater efficiency in green procurement, Nikon prepared a survey that covered suppliers' environmental conservation, encouraging each company to increase its points rating. In fiscal 2002, three explanatory sessions on improving

In July 1999, the Nikon Green Procurement Guide was issued and distributed to about 500 major Japanese suppliers. After seeking and receiving their agreement to participate in a survey, comments were collected on the survey forms and an explanatory session held. A second survey, in two sections, was carried out in fiscal 2002. The first section, with 46 evaluation items, covered environmental conservation; the other section covered products.

environmental protection performance were given to 114 suppliers who did not achieve a sufficiently high point rating in the surveys, and as a result the average point rating rose seven points over the previous survey (fiscal 2000) to attain 71 points. These efforts will be strengthened further in fiscal 2003, as we work with our suppliers to attain our goals. We also plan to expand our green procurement activities to include major suppliers to companies within the Nikon Group.

Green Procurement Evaluation Score Analysis



Workplace Environment

Nikon is implementing the following types of activities in regard to procured items that are not supplied to our customers as products or services, in response to the product surveys:

- Shift to use of office supply products (e.g. writing instruments, binders) with the "Eco-mark", and increase the variety and number of such items used.
- Purchases of ecological office supplies by Nikon included 99 new products in fiscal 2001 and 160 new products in fiscal 2002, for a cumulative total of 426 new products since the programme began.

Environmental Education/Awareness Activities

We believe it is vital that all employees improve their knowledge of environmental matters, and to this end, related manuals, regulations and procedure must be put in place, and we must attain the necessary specialised knowledge and techniques, in order that environmental conservation activities can be rolled out effectively.

General Environmental Education

We are working on improving the overall level of our employees' awareness, with appropriate educational systems implemented at every level, throughout each plant and workplace within the company.

- Executive management education (general environmental management, ISO 14001, management responsibilities, etc.)
- Education of new employees (general environmental awareness, Nikon's environmental activities)
- Environmental seminars for mid-level employees (general environmental management, ISO 14001, product assessment, etc.)
- Education of EMS representatives (environmental policy, environmental objectives, environmental manuals/regulations/procedures, evaluation procedure for environmental aspects)
- Everyday on-the-job education (general environmental management, environmental manuals/regulations/procedures, environmental targets, separation of waste and recycling, energy saving, paper and resources saving, etc.)

Awareness Activities

Nikon implements a full programme of awareness activities, with the aim of supplying information, informing employees of new policies and increasing awareness in environmental matters, as well as applying standards for decision-making.

- Publication and distribution of "Environmental Report"
- Publication and distribution of "Environment/Product Safety Information", for use in product development
- Publication of environmental awareness journals "Report from the Environmental Administration Group" and "Environmental Panel" via the company intranet.
- Publication and distribution of "ISO Update" (Ohi Plant), "EMS News" (Yokohama and Sagami-hara Plants) and "ISO 14001 News" (Mito Plant)
- Sharing of ideas, mottos, posters, etc. promoting environmental conservation, with adjudication and prizes awarded for the best ideas
- Organising environment month
- Implementation of an energy-saving patrol
- Distribution of an environmental strategy card showing the environmental policy and objectives to all employees
- Clear posting and notification of all waste-separation categories and provision of waste-disposal areas that encourage recycling
- Notice boards within the workplace, displaying such information as environmental objectives, targets, and management programmes

Nikon is developing the following environmental education and awareness activities, which are to be provided to all employees. Some group companies and suppliers are also required to participate in the education process.

Specialist Environmental Education

Nikon employees are encouraged to undertake specialist education both within and outside the company, in order to gain the necessary knowledge, skills and technical abilities to carry out their individual responsibilities with consideration for the environment. We are working to develop specialists and increase specialist knowledge within the company.

- Internal environmental auditor development course
- Control of chemical substances (handling procedures, PRTR, etc.)
- Environmental facilities operation management
- Specialised industrial waste management qualification training
- Energy management training
- Pollution prevention management training
- Education for persons in charge of handling dangerous substances



Internal environmental auditor development course



Environmental awareness journal "Report from the Environmental Administration Group"

Contributing to Society

Nikon tries to live in cooperation and harmony as a member of society, and carries out various community-based activities in order to maintain close links with society.



Interaction with the local community

At the Mito Plant, Nikon employees participated in a special event sponsored by the Clean Up Hinuma Network for the purpose of cleaning and beautifying the lakefront region. Carp and crucian fingerlings were released, and observation boat trips and other activities were organised.

Cleaning and beautification around the Yokohama Plant



Cleanup and beautification around the Mito Plant

Local clean-up and beautification activities

Nikon employees cooperated with local residents in a variety of public cleanup and beautification projects, in addition to taking on the responsibility of policing the areas around Nikon facilities.



Communication with the local community

At the 1st Hinuma Environment Forum, hosted by the Clean Up Hinuma Network, the Mito Plant gave a lecture on Nikon's environmental efforts.

Nikon plants have been interacting with local communities in various environment-focussed projects:

- Clean Up Hinuma Network (Mito Plant)
- Environment Committee, Ibaraki Employer's Association (Mito Plant)
- Association to Improve the Sagami-hara Environment (Sagami-hara Plant)
- Sagami-hara Waste Measures Council (Sagami-hara Plant)
- Kanagawa Environmental Protection Association (Sagami-hara Plant)
- Shinagawa Ward Plant Information Exchange Meeting (Ohi Plant)
- Yokohama Environmental Protection Council (Yokohama Plant)



Stop Idling Programme

Tokyo municipal regulations make it mandatory to inform all drivers that engines should be turned off when a vehicle is at rest (idling). At Ohi Plant, Nikon requires all drivers to turn off the engine when their vehicle is stopped in order to reduce air and noise pollution and global warming.



Zero-Emission Kick-Off Convention

On September 18, 2001, Nikon held a Zero-Emission Kick-Off Convention. Executive Vice President, Member of the Board, Yasujiro Hara, read a declaration stating that the Convention would mark the start of full-scale activities by the Nikon Group to achieve its goal of zero emissions.



Sendai Nikon Corporation Achieves Zero Emissions

Following trial operations that began in April 2001, Sendai Nikon Corporation became the first Nikon Group company to develop a zero-emission system in February 2002. The plant employed thermal recycling and other material recycling practices to promote the reuse and recycling of wastes such as plastics and sludge.



Environment Month sign

Leak emergency training



Poster calling for submissions

First Environment Month

Under Japan's Basic Environment Law, enacted in 1993, June 5 was designated as national "Environment Day". Each Nikon plant organises its own Environment Day activities, and Nikon has designated the entire month of June as "Environment Month," sponsoring a broad spectrum of activities.



Yokohama Plant: Recycling Promotion Award

On October 25, 2001, at the 2001 Recycling Promotion Awards Ceremonies, the Yokohama Plant received the Chairman's Award of the Recycling Promotion Association. Reasons cited for the award included the plant's efforts to steadily improve its recycling ratio, promotion of an environmental protection system in accordance with ISO 14001, understanding and implementing of proper waste sorting, as exemplified by "clean corner" recycling stations, and overall involvement of plant staff in recycling efforts.



Inverter



Awards ceremony at the Global Environment Forum

Mito Plant: Energy Conservation Award

The Mito Plant employs a cooling system even in mid-winter to control the environment for high-precision manufacturing. The plant introduced an inverter design for the cool water pump to minimise water supply losses during low-load periods and maximise waste reduction. Film was affixed to the windows to prevent excess sunlight from entering, thereby reducing the air conditioning load during daylight hours.

On June 5 (Environment Day), 2002, the plant's efforts were recognised at the Global Environment Forum, hosted by Ibaraki Prefecture, when it was presented with the Environmentally Friendly Corporation Award for energy conservation. Mito Plant General Manager Takeo Nishigaki accepted the award from Ibaraki Governor Masaru Hashimoto.



Collection of Rechargeable Batteries

In April 2001, Nikon participated in establishing the Japan Battery Recycling Center (JBRC), and jointly initiated nationwide collection and recycling of used rechargeable batteries from cameras and other products. Nikon also collects batteries at Nikon camera service centres/stations nationwide.

History of Environmental Preservation Activities

	Nikon	Japan/Worldwide
1967		Basic Law for Environmental Pollution Control enacted
1968		Air Pollution Control Law and Noise Regulation Law enacted
1970	First Pollution Response Committee meeting held (September)	Water Pollution Control Law and Waste Disposal and Public Cleaning Law enacted
1971	Pollution Response Committee changed name to Pollution Prevention Committee (October)	Japan Environment Agency established
1972		Club of Rome published its "Limits to Growth" report United Nations Conference on the Human Environment held in Stockholm
1973	Pollution Prevention Committee changed name to Environmental Improvement Committee (November)	
1975		The London Convention on ocean dumping went into effect
1979	Environmental Management Office established within the construction department (July)	
1987		Montreal Protocol on Substances that Deplete the Ozone Layer adopted
1988	First Nikon Group Environmental Communications Committee meeting held (November) First Specialist Committee Meeting on CFC Measures held (December)	Vienna Convention for Protection of the Ozone Layer went into effect Ozone Layer Protection Law enacted
1991		Law for the Promotion of Utilisation of Recycled Resources enacted The Keidanren Global Environment Charter announced
1992	Nikon Basic Environmental Management Policy (April) Restructuring of the Environmental Improvement Committee, establishment of the Environmental Committee (April)	The Basel Convention went into effect "Earth Summit" held in Rio de Janeiro
1993		Basic Environment Law enacted Start of International Energy Star Program
1994	Elimination of specified CFC used in cleaning (May)	United Nations Framework Convention on Climate Change went into effect
1995	Implementation of Nikon Product Assessment (May) Implementation of policy toward attaining ISO 14001 certification (May)	Container and Packaging Recycling Law enacted
1996		Publication of ISO 14001 Standards
1997	Sendai Nikon earns the first ISO 14001 certification among the Nikon Group (March)	Third Conference of the Parties (COP 3) to the United Nations Framework Convention on Climate Change held in Kyoto
1998	Nikon's Environmental Symbol introduced (May) Basic Policy on Packaging Materials (May) Ohi Plant becomes the first Nikon plant to earn ISO 14001 certification (July) Nikon Basic Policy for Green Procurement (August)	Law Concerning the Promotion of Measures to cope with Global Warming enacted
1999	Nikon Green Procurement Guide distributed to suppliers (July) Environmental & Technical Administration Department established (October)	Pollutant Release and Transfer Register (PRTR) Law enacted
2000	Nikon PRTR Guide issued (March) Nikon Environmental Action Plan 21 (for fiscal 2001) issued (June)	Basic Law for Establishment of Recycling-Based Society enacted Law for Promotion of Effective Utilisation of Resources enacted
2001	Zero-Emission Kick-off Convention held (September) Nikon Environmental Report 2001 released (October)	Fluorocarbons Recovery and Destruction Law enacted



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