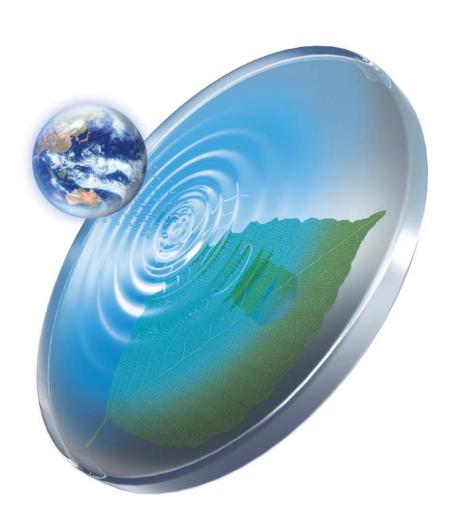


# Nikon Environmental Report 2004



#### 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 2004 (April 1st, 2003 to March 31st, 2004) at Nikon Corporation. It encompasses the head office, as well as the Ohi, Yokohama, Sagamihara, Kumagaya and Mito plants. The report also includes information on activities during the term, plans for future activities, and information on group companies.

#### Reference

"Environmental Report Guideline (2003)" by the Ministry of the Environment

#### Web

Environmental preservation

http://www.nikon.co.jp/main/eng/portfolio/eco/index.htm Corporate profile

http://www.nikon.co.jp/main/eng/portfolio/index.htm Investor relations

http://www.nikon.co.jp/main/eng/portfolio/ir/index.htm

#### **Next Issue**

December 2005

#### **Major Features**

- The Environmental Accounting section includes the data of the Nikon Group's major manufacturing subsidiaries for the first time. (See page 9)
- The rate of Eco-glass utilisation in optical designs has climbed to 97% in consumer products, and 95% in industrial products. (See pages 10, 13)
- All plants, along with three major manufacturing subsidiaries, developed zero emission systems with the goal of eliminating emissions that eventually become landfill. (See pages 10, 21) A drastic reduction in the amount of waste was achieved. (See pages 10, 19)
- We reached our target for reduction of CO2 emissions. (See pages 10, 18)
- We introduced a new three-year plan, "Nikon Environmental Action Plan for Fiscal 2005" (from fiscal 2005 to fiscal 2007). The first target to be established was the reduction of greenhouse gas emissions by fiscal 2011. (See page 11)
- In accordance with increasingly strict regulation of chemical substances in Europe and elsewhere, we have redoubled our green procurement efforts. (See pages 26, 27)
- Examples of improvement have been added to the Topics section. (See page 30)
- Non-environmentally related activities have been added to the Contributing to Society section. (See page 32)
- Two new sections have been added Activities for Better Health, and Requests Received for Nikon Environmental Report 2003.

#### Issued by

Environmental & Technical Administration Dept. NIKON CORPORATION

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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**

"Recycling"... "coexistence"... these are key concepts that have served as guidelines for the broad range of activities we have undertaken in the name of environmental preservation since 1992, when we issued the "Nikon Basic Environmental Management Policy."

The world we live in is experiencing numerous difficulties, including global warming and the pervasion of pollutants into the environment. There is considerable pressure being brought to bear on corporations to take a more proactive stance with regard to preservation of the environment. At the same time, the company's performance with regard to Corporate Social Responsibility (CSR), exceeding the boundaries of environmental protection to the achievement of sustainability, has also become a key indicator of corporate value. In recognition of the importance of this developing business environment, we formulated the "Nikon Charter of Corporate Behaviour" in April of 2004. It sets forth basic action guidelines for the entire Nikon Group, including not only compliance with laws and regulations, but also defining appropriate behaviour from an ethical standpoint as a good corporate citizen.

We are proud to declare that we have attained numerous goals established in the "Nikon Environmental Action Plan" for fiscal 2004, which defined Group-wide mid-term environmental targets. We achieved zero emissions for all Nikon plants, as well as for three major Nikon Group manufacturing subsidiaries. CO2 emissions, recognised as a major cause of global warming, have been successfully reduced to our environmental targets. Our efforts to minimise the environmental impact of our products continue unabated. This includes IC steppers, LCD steppers, cameras, microscopes, measuring instruments, surveying instruments, binoculars and customised equipment. One of our primary objectives has been to increase the usage of Eco-glass, and today its use in consumer products has climbed to 97%. In accordance with the increasingly stringent chemical regulations in Europe and elsewhere, we have developed technologies for lead-free soldering and surface processing, and are further strengthening our green procurement policy while investigating the potential of a host of exciting new materials.

Amid these developments, we have reviewed the Nikon Environmental Action Plan and expanded it for fiscal 2005. The most prominent revision was the establishment of concrete targets for reductions in greenhouse gas emissions for fiscal 2011. Through these and other efforts, we pledge to do everything within our power to support and advance the prosperity and fulfilment of humankind.

We hope that this report provides a clear picture of our corporate activities for the achievement of sustainability. We welcome and greatly appreciate your input.



Shoichiro Yoshida Chairman of the Board and Chief Executive Officer

Shoichiro Yoshida



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

Temo Shimamuraf

## **Company Profile**

#### **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<sup>th</sup>, 1917 Capital: ¥36,660 million

(as of March 31, 2004)

Net Sales: \$506,378 million (Consolidated) \$375,958 million (Non-consolidated)

Number of Employees: 13,636 (Consolidated) (as of March 31, 2004) 4,310 (Non-consolidated)

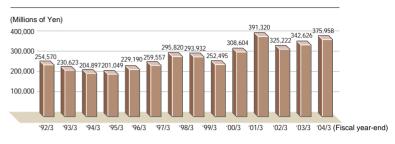
Primary Business: Manufacture and sales of optical instruments

#### **Major Products of Nikon Group**

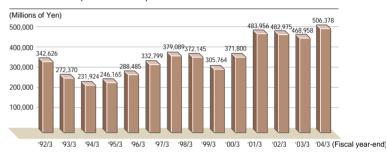
| Precision Equipment Business (Precision Equipment Company*)               | IC steppers/LCD steppers  |
|---|---|
| Imaging Products Business<br>(Imaging Company*)                           | Digital cameras/Film cameras/Interchangeable lenses/<br>Speedlights/Photographic accessories/Film scanners                                      |
| Instruments Business<br>(Instruments Company*)                            | Biological microscopes/Industrial microscopes/<br>Stereoscopic microscopes/Measuring instruments/<br>Inspection equipment                       |
| Customised Products Business (Customised Products Division*)              | Customised equipment/Space-related equipment/<br>Astronomy-related equipment/<br>Nuclear power-related equipment/Optical components             |
| CMP System Business<br>(CMP Division*)                                    | CMP systems   |
| Glass Business<br>(Glass Division*)                                       | Glass business based on glass material technologies   |
| Sport Optics Business<br>(Nikon Vision Co., Ltd.)                         | Binoculars/Monoculars/Fieldscopes/Fieldmicroscopes/<br>Loupes/Large-objective-diameter binoculars/<br>Sightseeing binoculars/Laser rangefinders |
| Surveying Instruments<br>Business<br>(Nikon-Trimble Co., Ltd.)            | Total stations/GPS products/Construction lasers/<br>Theodolites/Automatic levels/Surveying CAD systems  |
| Eyewear Business<br>(Nikon-Essilor Co., Ltd.;<br>Nikon Eyewear Co., Ltd.) | Ophthalmic lenses/Hearing aids/Ophthalmic frames/<br>Sunglasses/Pendant loupes  |

\*These companies/divisions are part of Nikon Corporation's internal structure

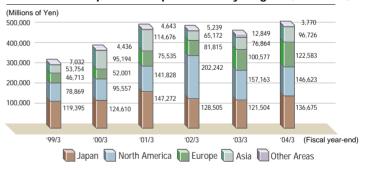
#### Net Sales (Non-consolidated)



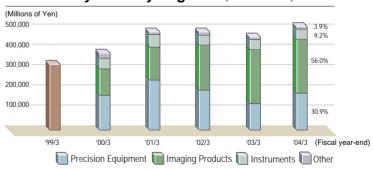
#### Net Sales (Consolidated)



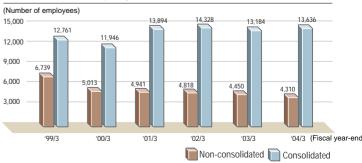
#### Net Sales in Japan and Export Sales by Region (Consolidated)



#### Net Sales by Industry Segment (Consolidated)



#### Number of Employees\* (Non-consolidated/Consolidated)



\*Since fiscal 2000, the non-consolidated employee figure has not included personnel dispatched to subsidiaries and associated companies.

## **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". Now we have the

"Nikon Charter of Corporate Behaviour", established in April of 2004. It outlines the Nikon Group's approach to executing our corporate philosophy, stresses the importance of adhering to statutes in all business activities, and sets forth guidelines for proper conduct from an ethical standpoint. Guided by our new philosophy and charter, 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 below.

#### **Action Guidelines**

- (1) We will make every effort to promote waste reduction, reuse and recycling, while encouraging 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 minimise 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.

\*For detailed information on "Vision Nikon 21", please visit the "Portfolio" area of our website.



#### 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.

## 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.



Air

## Primary environmental loading Input

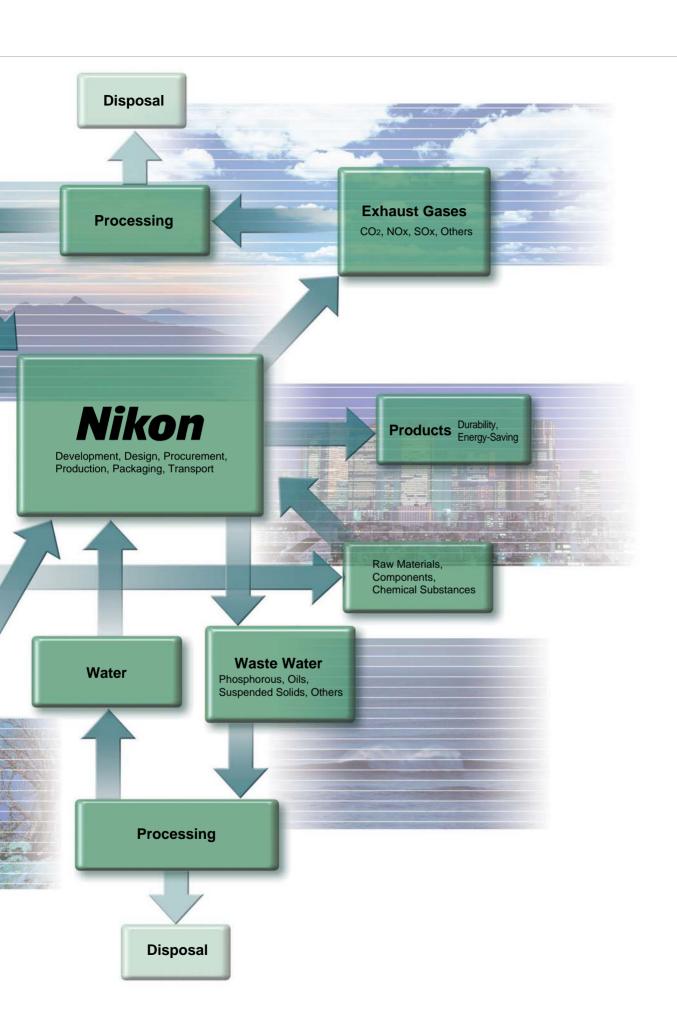
|                   | Electricity                | 154,587 | (thousand) kwh            |
|-------------------|----------------------------|---------|---------------------------|
| _                 | Gas                        | 5,735   | (thousand) m <sup>3</sup> |
| Energy            | Heavy oil                  | 210     | KI                        |
|                   | Water                      | 1,294   | (thousand) m <sup>3</sup> |
|                   | Dichloromethane            | 2,747   | kg                        |
| PRTR<br>substance | Toluene                    | 1,314   | kg                        |
|                   | Dichloropentafluoropropane | 1,401   | kg                        |
|                   | Lead and lead compounds    | 3,301   | kg                        |
|                   | Boron and boron compounds  | 4,099   | kg                        |

#### Output

|                              | Electricity                | 58,434 | t - CO <sub>2</sub> |  |  |
|------------------------------|----------------------------|--------|---------------------|--|--|
| CO <sub>2</sub> exhaust      | Gas                        | 12,095 | t - CO <sub>2</sub> |  |  |
|                              | Heavy oil                  | 569    | t - CO <sub>2</sub> |  |  |
|                              | Dichloromethane            | 2,697  | kg                  |  |  |
| PRTR<br>substance<br>exhaust | Toluene                    | 898    | kg                  |  |  |
|                              | Dichloropentafluoropropane | 475    | kg                  |  |  |
|                              | Lead and lead compounds    | 2      | kg                  |  |  |
|                              | Boron and boron compounds  | 3      | kg                  |  |  |
| Disposal                     | Amount of waste generated  | 2,748  | t                   |  |  |
|                              | Amount recycled            | 2,616  | t                   |  |  |
|                              | Amount of landfill         | 13     | t                   |  |  |

#### <Target Plants>

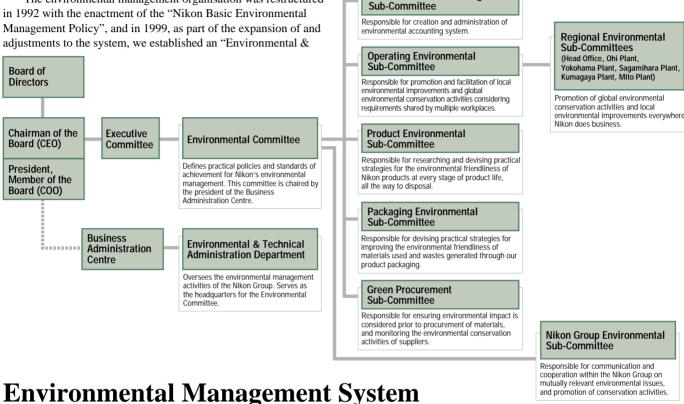
Ohi, Yokohama, Sagamihara, Kumagaya and Mito



## **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 become 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



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 facilities which have been recertified are identified by asterisks (\*).

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

Technical Administration Department" within the company. The

constantly kept abreast of new domestic and international laws,

the ever-changing needs of society.

**Environmental Accounting** 

current environmental management organisation ensures that we are

treaties or regulations, or modifications to existing ones, as well as

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                           |
| Hikari Glass Co., Ltd       | June 2000*       | Research, development and manufacture of optical glass                                  |
| Nikon Logistics Corporation | March 2002       | Logistics   |
| Okuma Shokai Co., Ltd.      | May 2002         | Sales and maintenance of microscopes, measuring instruments, inspection equipment, etc. |
| Kogaku Co., Ltd.            | February 2003    | Sales and maintenance of microscopes, measuring instruments, inspection equipment, etc. |
| Nikon Instech Co., Ltd.     | March 2004       | Sales and maintenance of microscopes, measuring instruments, inspection equipment, etc. |

## **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 2004 include those for Nikon Corporation and our major manufacturing subsidiaries. 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 2004" on the Environmental Action Plan in the next chapter. These results are the actual results of strategies implemented in response to our environmental target values.

#### Cost of Environmental Conservation (Fiscal 2004: Nikon Corporation only)

Unit: millions of yen

| Category               |   | Main Activities   |     | Expenses | Total |
|------------------------|---|---|-----|----------|-------|
|                        | 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   | 0   | 114      | 114   |
|                        | Production and inspection   | Analysis of harmful chemical substances   | 30  | -        | 30    |
| Product<br>environment | Containers and packaging  | Reduction in use of plastics in packaging materials   | -   | 0        | 0     |
| environment            | Green procurement   | Investigation of harmful chemical substances  | -   | 5        | 5     |
|                        | Product Environmental Accounts  |   | 30  | 120      | 150   |
|                        | Energy conservation   | Replacement of air conditioning systems, installation of inverters  | 106 | 13       | 119   |
|                        | Resource recycling  | Recycling of waste plastics, promotion of paper reuse, reducing water use   | 7   | 29       | 36    |
| Workplace              | Reduction in use of harmful chemical substances   | Promotion of use of alternative solvents, refurbishment of wash machines  | -   | -        | -     |
| environment            | Green procurement   | Establishment and operation of Green Purchase Guide   | -   | 7        | 7     |
|                        | Improvement of office   | Improvement of office environmental performance   | -   | 52       | 52    |
|                        | Workplace Environmental Accounts  |   | 113 | 100      | 213   |
|                        | 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 | 194 | 413      | 607   |
|                        | Management activities   | ISO 14001 related (EMS management, workplace education), introduction of greenery   | -   | 420      | 420   |
|                        | Total   |   | 337 | 1,053    | 1,390 |

#### Classified According to Guidelines of the Ministry of the Environment (Fiscal 2004: Nikon Corporation only) Unit: millions of yen

|   | Category                              | Main Activities  | Investment | Expenses | Total | S      |
|---|---------------------------------------|--|------------|----------|-------|--------|
|   | Cost within business area             |  | 307        | 455      | 761   | A<br>N |
|   | Pollution prevention costs            | Operations management for gas and water emissions processing equipment, maintenance of noise and vibration-emitting facilities | 147        | 185      | 331   |        |
|   | Global environment conservation costs | Energy conservation, reduction in use of harmful chemical substances, control of dangerous substances                          | 153        | 90       | 242   | *      |
|   | Resource recycling costs              | Waste reduction (recycling of waste plastics, promotion of paper reuse), waste management, reducing water use                  | 7          | 181      | 188   |        |
| 1 | Jpstream/Downstream costs             | Investigation of harmful chemical substances, establishment and implementation of Green Purchase Guide                         | 30         | 13       | 42    |        |
|   | Management activities costs           | ISO 14001 related (EMS management, workplace education)  | -          | 463      | 463   | *      |
|   | R & D costs                           | Energy-saving design, switch to hot-runner moulds, design products for use with Eco-glass                                      | -          | 114      | 114   |        |
|   | Social activity costs                 | Financial sponsorship for a wide range of activities   | -          | 4        | 4     |        |
|   | Environmental damage costs            | Processing contaminated soil   | -          | 5        | 5     | *      |
|   | Total                                 |  | 337        | 1,053    | 1,390 |        |

Scope of Data: Applicable Period: April 1st, 2003 to March 31st, 2004

- \* 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.

#### Cost of Environmental Conservation Activities (Fiscal 2004 – Manufacturing subsidiaries): Tochigi Nikon, Mito Nikon, Sendai Nikon, Zao Nikon, Kurobane Nikon Unit: millions of yen

|             |   |            | Cost within business area |            |  | Upstream/ | Management           | Social         | т              | tol        |          |
|-------------|---|------------|---------------------------|------------|--|-----------|----------------------|----------------|----------------|------------|----------|
|             | Category  |            | Pollution prevention      |            | Global environment conservation Resource recycling |           | Downstream costs act | activity costs | activity costs | Total      |          |
|             |   | Investment | Expenses                  | Investment | Expenses   | Expenses  | Expenses             | Expenses       | Expenses       | Investment | Expenses |
|             | Product development                             | -          | -                         | _          | -  | -         | 0.1                  | -              | -              | -          | 0.1      |
| Product     | Containers and packaging                        | -          | -                         | -          | -  | -         | -                    | -              | -              | -          | -        |
| environment | Green procurement                               | -          | -                         | -          | -  | -         | 0.7                  | -              | -              | -          | 0.7      |
|             | Product Environmental Accounts                  | -          | -                         | -          | -  | -         | -                    | -              | -              | -          | 0.8      |
|             | Energy conservation                             | -          | -                         | 32.6       | 0.8  | -         | -                    | -              | -              | 32.9       | 0.8      |
| Workplace   | Resource recycling                              | -          | -                         | -          | -  | 5.4       | -                    | -              | -              | -          | 5.4      |
| environment | Reduction in use of harmful chemical substances | -          | -                         | -          | 2.4  | -         | -                    | -              | -              | -          | 2.4      |
|             | Improvement of office                           | -          | -                         | -          | -  | -         | -                    | 0.5            | -              | -          | 0.5      |
|             | Workplace Environmental Accounts                | -          | -                         | -          | -  | -         | -                    | -              | -              | -          | 8.3      |
|             | Response to laws and regulations                | 17.0       | 39.4                      | -          | 4.8  | 54.0      | -                    | -              | -              | 17.0       | 98.1     |
|             | Management activities                           | -          | -                         | -          | -  | -         | -                    | 91.1           | 0.4            | -          | 91.5     |
|             | Investment                                      | 17.0       | -                         | 32.6       | -  | -         | -                    | -              | -              | 49.9       | -        |
|             | Expenses  | -          | 39.4                      | -          | 7.9  | 59.4      | 0.8                  | 91.6           | 0.4            | -          | 199.6    |
|             | Total   |            |                           |            |  |           |                      |                |                |            | 249.5    |

#### **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. To that end, for the first time we have listed

data for our manufacturing subsidiaries which have the most significant impact on the environment. In the future, we intend to publish more detailed analyses of these subsidiaries.

## **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 for Fiscal 2001". Now we have the revised plan as the "Environmental Targets for Fiscal 2004",

which comprises the first year's target of the "Nikon Environmental Action Plan for Fiscal 2004". It separates the targets into 12 categories representing the product and workplace environments as shown below.

Fiscal 2004 results

Evaluation

The following evaluation is for fiscal 2004.

#### The Nikon Environmental Action Plan for Fiscal 2004

Fiscal 2004 environmental targets

**Product Environment** 

Theme

| Energy conservation (prevention of global warming)  | [Energy consumption efficiency] • Improvement in energy efficiency of 10% or greater for newly released products, compared with figures for fiscal 2001.  | For the 14 applicable newly released products, 12 achieved a 10% or greater improvement in energy efficiency, with a simple average improvement of 61%. Some examples are introduced on pages 14 – 16.  | 0          |
|---|---|---|------------|
|   | [Eco-glass usage ratio]  Use of Eco-glass in at least 95% of all optical designs for consumer products, and at least 91% for industrial products.   | Consumer products: 97%.<br>Industrial products: 95%<br>(92%).   | 0          |
|   | [Lead-free solder] • Introduction of lead-free printed circuit boards for electronic components into consumer and industrial (new board) products.  | Consumer products: Two products employ only<br>lead-free boards; one other product incorporates<br>primarily lead-free boards.<br>Industrial products: Preparation for transition in<br>progress; some lead-free boards have been introduced. | 0          |
| Reduction in use of harmful chemical substances   | [Hexavalent chrome, lead, cadmium, mercury, PBB, PBDE, PVC] • Increase in products shipped with reduced levels of the above hazardous substances.   | Products featuring reduced levels of aforementioned hazardous substances were released.   | 0          |
|   | [Ozone layer-damaging substances] • Reduction of IC and LCD steppers using HCFC as a refrigerant to fewer than 15% of all products.   | • 23% (38%).  | Δ          |
|   | [Green procurement] • Identification, announcement, and investigation of special hazardous chemical substances.   | Identification, announcement, and<br>investigation of special hazardous chemical<br>substances.   | 0          |
| Containers and packaging] • Reduction of at least 30% compared with figures from fiscal 2001. |   | • 240% increase (159% increase).  | ×          |
| Workplace Environment   |   |   |            |
| Theme   | Fiscal 2004 environmental targets   | Fiscal 2004 results   | Evaluation |
| Energy conservation<br>(prevention of global<br>warming)                                      | [Greenhouse gas emissions] • Reduction of at least 1% in average annual greenhouse gas emissions per net sales for five-year period from fiscal 1998 to fiscal 2002.  | • 9% reduction (2% increase).   | 0          |
|   | [Zero emissions]  Achievement of zero-emission system for at least one more major manufacturing subsidiary.   | Zero-emission systems were developed for<br>Tochiqi Nikon and Kurobane Nikon.   | 0          |
| Waste reduction   | [Waste generation]  Reduction in amount of waste generation per net sales of at least 5% compared with figures from fiscal 2001.  | 22% reduction (6% reduction).   | 0          |
| Reduction in use of harmful chemical substances   | [Chlorinated organic solvents] • Reduction in use of chlorinated organic solvents in wash at workplaces including major manufacturing subsidiaries, by at least 80% compared with figures from fiscal 1999. | • 95% reduction (82% reduction).  | 0          |
| Green procurement   | <ul><li>[Eco-procurement products]</li><li>Preparation and introduction of guide to green purchasing, and conformity with guidelines for at least 60% of purchases.</li></ul>                               | Green purchasing implementation guidelines<br>prepared and distributed within Nikon Group.<br>66% of purchases conformed with guidelines.   | 0          |

<sup>\*</sup>In the section titled, "Results through fiscal 2004", the data in parentheses are results through fiscal 2003.

Symbols: Circle indicates progress on-schedule; triangle denotes insufficient effort; "X" represents significant gap between stated goal and actual performance.

Nikon introduced a new three-year plan, "Nikon Environmental Action Plan for Fiscal 2005" (from fiscal 2005 to fiscal 2007), which incorporates considerable revisions to the previous plan. The long-term target for fiscal 2011 — the reduction of greenhouse gas emissions — is also displayed.

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

#### The Nikon Environmental Action Plan for Fiscal 2005

#### **Product Environment**

| Theme  | Midterm/long-term environmental targets  | Targets for fiscal 2005   |
|--|--|---|
| Energy conservation (prevention of global warming) | [Energy consumption efficiency] • More than 30% improvement in overall energy efficiency of new products released through the end of fiscal 2007, compared with figures of similar products already released.  | • Improvement of 30% or greater.  |
|  | <ul><li>[Eco-glass usage ratio]</li><li>Use of Eco-glass in 100% of new optical designs for consumer products, and at least 96% for industrial products by fiscal 2007.</li></ul>  | • 100% of consumer products, at least 94% of industrial products.   |
| Reduction in use of harmful chemical substances    | <ul> <li>[Lead-free solder]</li> <li>Use of lead-free printed circuit boards for electronic components in 100% of consumer products and at least 50% of new industrial products shipped in second half of fiscal 2006 and beyond, to be increased to 100% by fiscal 2007.</li> </ul> | At least 50% of consumer products and at least 20% of industrial products.  |
|  | [Hexavalent chrome, lead, cadmium, mercury, PBB, PBDE, PVC] • Total elimination of these substances in consumer products shipped, excluding non-alternative materials, in second half of fiscal 2006 and beyond.   | Major reduction of aforementioned substances in consumer products.  |
|  | [Ozone layer-damaging substances]  • Total elimination of HCFC as a refrigerant in IC and LCD steppers shipped in fiscal 2007.   | Reduction of models utilising HCFC to 20% or fewer of total models shipped.   |
|  | <ul> <li>[Green procurement]</li> <li>Completion of investigation of special hazardous substances in all consumer products (including sales promotion and RP items) and major industrial products, by fiscal 2007.</li> </ul>  | Performance investigation and management implemented for<br>key consumer products and selected industrial components. |
| Containers and packaging                           | [Plastic containers and packaging] • Reduction of at least 30% compared with figures from fiscal 2003 for consumer products, by fiscal 2007.   | Reduction of 20% or greater.  |

| Workplace Environment                              |   |   |
|--|---|---|
| Theme  | Midterm/long-term environmental targets   | Targets for fiscal 2005   |
| Energy conservation (prevention of global warming) | [Greenhouse gas emissions] • Reduction in average annual emissions per net sales of at least 25% by fiscal 2011 and at least 5% by fiscal 2007, both compared to levels for fiscal 2002.  | • Reduction of 3% or greater.   |
| Waste reduction                                    | <ul> <li>[Zero emissions]</li> <li>Establishment of zero-emission systems at major manufacturing subsidiaries in fiscal 2005.</li> <li>[Waste generation]</li> <li>Reduction in amount of waste generation of at least 30% by fiscal 2007, compared with figures from fiscal 2001.</li> </ul> | Establishment of zero-emission systems at major manufacturing subsidiaries.      Reduction of 20% or higher |
| Reduction in use of harmful chemical substances    | [Chlorinated organic solvents]  • Elimination of chlorinated organic solvents in wash used at all workplaces, including major manufacturing subsidiaries by the end of fiscal 2006.   | Reduction of 95% or greater compared to figures from fiscal 1999.   |
| Green procurement                                  | [Eco-procurement products]  • Conformity with guidelines for at least 85% of all products by fiscal 2007.   | Conformity with guidelines for at least 70% of all products.  |

#### **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.

Nikon is constantly adding items and standards for assessment. In fiscal 2004, we have introduced a revised product assessment system (6<sup>th</sup> edition) that introduces stricter standards toward the improvement of harmful substance management. Our development

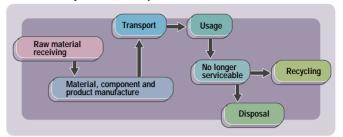
#### Features of Nikon Product Assessment System

- 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.
- Anticipation 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, and part count.
- Assessment and improvement of energy consumption based on Nikon's "Power Consumption Efficiency" formula (product functionality/power consumed).
- Pursuit of extended product life and simpler repair.
- Reduction in amount of waste generated from consumables; appropriate customer guidance on waste processing.
- Promotion of recycling of secondary batteries (simplified removal, content marking and explanations).
- Simplified separation of plastics and metals.
- 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).
- Reduction in use of harmful substances (heavy metals in materials such as metal, resin, electric wire, electronic components, etc.).
- Implementation of lead-free solder on boards for electronic components. (see page 13)
- Use of optical glass free of lead and arsenic in optical system components such as lens elements (see page 13).
- Strict observance of environmental laws and regulations.
- Overall assessment (comments on degree of improvement, overall assessment points, etc.).

#### General life cycle for Nikon products



and design divisions intend to redouble their efforts with the goal of a more favourable evaluation in the newest edition.

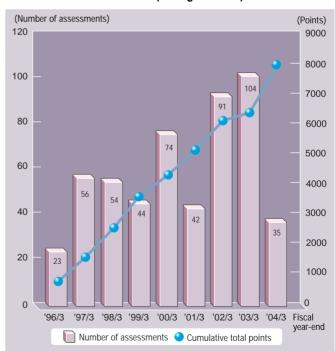
#### **Nikon Product Assessment Record**

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 nine-year period from fiscal 1996 to fiscal 2004, a total of 523 assessments were made under this programme, with an average assessment of +14.7 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 FY2004)



#### **Activities in the Product Environment**

## **Environmentally Sound Optical Glass** (Eco-glass)

[Eco-glass usage ratio]

• Use of Eco-glass in at least 95% of all optical designs for consumer products, and at least 91% for industrial products.



Nikon began full-scale work on the development of lead- and arsenic-free Eco-glass in 1995. We are employing this new glass in all of our product categories that incorporate optical systems — IC steppers, cameras, microscopes and so on. Nikon is working to

#### 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 ceased the use of cadmium — a toxic material — in optical glass.

In the 1990s, we investigated countless optical glass compositions, bearing in mind the possible effects of each on the environment. Approximately 100 types of the optical glass contained lead or 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 environmentally sound glass and employ it

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 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.

minimise the risk of environmental pollution (air, water, soil and waste disposal sites) caused by optical glass containing lead and arsenic, as far as possible throughout the entire product life cycle (raw material production, manufacturing, use and disposal).

#### **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.

Fiscal 2001 Development of Eco-glass

composition complete.

The total cost for R&D to develop Eco-glass is 410 million yen during this term.



Eco-glass development

#### Rates of Eco-glass Utilisation in **New Optical Designs**

(Rates are calculated based on component units.)

|             | • • •   |
|-------------|---|
| Fiscal 2000 | 77.1%   |
| Fiscal 2001 | 86.1%   |
| Fiscal 2002 | 78.1%   |
| Fiscal 2003 | 92.2%   |
| Fiscal 2004 | 94.7%   |
|             | Consumer products 96.6% (Cameras, binoculars, etc.) |
|             | Industrial products 94.5% (IC steppers, etc.)       |



[Lead-free solder]

• Introduction of lead-free printed circuit boards for electronic components in consumer and industrial (new boards) products

[Hexavalent chrome, lead, cadmium, mercury, PBB, PBDE, PVC]

Increase in products shipped with reduced levels of the above hazardous substances

## To minimise the use of harmful substances, Nikon is promoting the usage of lead-free solder in our electronic equipment as well as that

**Lead-free Solder, Reductions** 

in Harmful Substance Usage

produced by our group and cooperative companies. We are also

#### **Developments in Lead-Free solder**

**Activities in the Product Environment** 

We have been installing new equipment on electronics production lines at our Yokohama plant, Sendai Nikon and other sites. We are also advancing experimentation, prototyping and evaluation of leadfree solder on electronics printed circuit boards in each product category. There have been considerable technical obstacles to overcome, and we are standardising and sharing the expertise we have gained with our product development and manufacturing technologies teams, as well as throughout the entire Nikon Group. Our objective is to ensure Nikon is fully prepared for utilisation of the new technology in products.

Our in-house training and technical certification system now

offers a course on lead-free soldering, assisting employees in mastering the new technology.

The majority of the leadfree solder used at Nikon is the tin-silver-copper alloy that has been most widely used in the industry, but with our wide range of products we are also required to use low-temperature tin-silver-indium-bismuth solder.



High-performance reflow furnace at Yokohama Plant

strongly encouraging the reduction of hexavalent chrome in surface treatment of metal, PVC wire sheathing, and reduced use of heavy metal in metal, plastic or electronic components.

#### **Examples of Lead-free Solder Introduction and Implementation**

Plans to utilise lead-free solder are being implemented under the Environmental Action Plan (see pages 10 and 11), and in fiscal 2004 lead-free solder was used on printed circuit boards for new products including the D2H high-grade digital SLR camera, the SB-800 camera Speedlight, and the LASER 800S portable laser distance meter, among others.

Lead-free PCB for confocal microscope

Cream-solder printing machine at Sendai Nikon

Based on our experimental preparation and consistent stance, from this point we intend to accelerate the full-scale use of lead-free solder in industrial products as well.

#### Reductions in Use of Other **Hazardous Substances**

Nikon is taking steps to reduce the amounts of hexavalent chrome, lead, cadmium, mercury, PBB, PBDE and PVC in our products, as far as is technically possible.

We are also developing new substances to replace hexavalent chrome in surface treatment, investigating technologies to replace PVC in cable and wire sheathing and camera cases, and investigating the potential of alternative materials for a wide range of metals, plastics and electronic parts. Our goal is to develop products which use none of these hazardous substances.

#### **Activities in the Product Environment**

## **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**

#### • IC stepper NSR-S307E

Featuring a projection lens with an ultra-high N.A. of 0.85, this state-of-the-art lens-scanning ArF excimer stepper can handle volume production of advanced 80nm or finer line-width devices. The stepper's newly developed body enables enhanced throughput and alignment accuracy, and power consumption efficiency has also been optimised.

<Power consumption efficiency> 71% higher than the NSR-S306C in exposure of a 300mm 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 have introduced a new era in design rule shrink IC manufacture, and made major contributions to continuing improvements in resource utilisation efficiency.



NSR-S307F

#### Liquid crystal display stepper FX-63S

This large-plate exposure system supports 5th- and 6th-generation plate sizes for LCDs, thanks to Nikon's sophisticated technological innovations such as multilens projection optics and a scanning exposure system. The FX-63S also features improved throughput and higher power consumption efficiency. <Power consumption efficiency> 208% higher than the FX-21S in large-panel exposure (internal reference) <Ozone layer protection> New HFC refrigerant with zero ODP (Ozone-Depletion Potential) used for air conditioning. Large-size high-definition liquid crystal display (LCD) panels have a significantly lower environmental impact than CRT monitors, particularly regarding resource and energy conversation. In this way, Nikon LCD steppers are playing a prominent role in environmental preservation in the 21st century.



FX-63S

#### **Imaging Company Products**

#### ◆ Digital SLR camera D2H

Incorporates Nikon's new, proprietary "LBCAST" JFET image sensor to provide high-quality, high-resolution images. This professional digital SLR camera offers continuous shooting at 8 frames per second for up to 40 consecutive images\*1, with the world's shortest\*2 shutter release time lag of approximately 37ms.

- \*1 For JPEG images at 2464 x 1632 pixels
  \*2 As of Nov. 1 2003, for interchangeable-lens digital SLR cameras
- <Power consumption efficiency> 34% higher than the D1H, thanks to the "LBCAST" low-dissipation sensor and power-efficient circuit design.
- <Reduced product mass> 110g lighter than the D1H, due to the employment of a magnesium body and
- <Lead-free solder> Most electronic component boards use lead-free solder
- <Reduction of hazardous substances> Wire sheathing almost entirely PVC-free.
- <Eco-glass usage > 100%

"LBCAST" sensor slashes 1/6th that of the D1H



Board using lead-free solde



PVC-free electrical wiring





Magnesium body



COOL PIX 3200



COOLPIX 5200

#### Digital camera COOLPIX 3200

This camera is designed to enable even first-time digital camera users to easily capture great images. The compact, lightweight grip-type body design is packed full of handy functions, and the intelligent button layout on the body rear contributes to superb operability.

- <Longer battery life> 100% longer than the COOLPIX 3100 thanks to power-efficient circuit design.
- <Reduced product mass> 7% less than the COOLPIX 3100.
- <Eco-glass usage> 100%

#### Digital camera COOLPIX 5200

This compact, lightweight digital camera offers 5.1 million effective pixels and a 3x optical zoom Nikkor ED lens. The high-class, grip-type aluminium body design is easy to handle, and visibility and operability are excellent thanks to the mode dial on top and the intelligent control layout on the rear of the body.

- <Power consumption efficiency > 18% higher than the COOLPIX 5000 thanks to power-efficient circuit design, and use of smaller, lower-voltage batteries
- <Reduced product mass> 57% less than the COOLPIX 5000.
- <Eco-glass usage> 100%

[Energy consumption efficiency]

- · Improvement in operational energy consumption efficiency of 10% or greater for newly released products, compared with figures for fiscal 2001 [Ozone layer-damaging substances]
- Reduction of IC and LCD steppers using HCFC to fewer than 15% of all products.



#### • Interchangeable lens AF-S DX Zoom-Nikkor ED 18-70mm f3.5-4.5G IF

This standard zoom lens was developed specifically for use with Nikon digital SLR cameras. The optical system and mechanisms are super light, and resolving power has never been higher. The Silent Wave Motor (SWM) delivers fast, quiet auto-focussing drive performance.

Since March of 2004, this lens has been packaged with the D70, the winner of the TIPA\* Best Consumer Digital SLR Camera in Europe 2004 award. The lens is also sold separately.

<Reduced product mass> 14% less than the AF Zoom-Nikkor 28-105mm f3.5-4.5D IF. <Eco-glass usage> 100%

AF-S DX Zoom-Nikkor 18-70mm F3.5-4.5G IF-ED



SUPER COOLSCAN 5000 ED





COOLSCAN V ED

#### • Film scanner SUPER COOLSCAN 5000 ED, COOLSCAN V ED

The SUPER COOLSCAN 5000 ED is a high-resolution, 4000-dpi film scanner employing a Scanner Nikkor ED lens, and features unsurpassed resolving power, delivering scans as fast and crisp as any scanner in its class. The COOLSCAN V ED, an affordable, user-friendly film scanner offering fine quality and enhanced speed, won the TIPA\* Best Film Scanner in Europe 2004 award.

- \*TIPA (Technical Image Press Association) is composed of editors from major European camera and imaging specialty magazines, and selects the best imaging products in a number of categories every year.
- <Power consumption efficiency> SUPER COOLSCAN 5000 ED: 50% higher than the SUPER COOLSCAN 4000 ED thanks to reduced scan times; COOLSCAN V ED: 13% higher than the COOLSCAN IV ED.
- <Eco label> Certified under International Energy Star Programme.
- <Eco-glass usage> 100%

#### **Instruments Company Products**

#### • Biological microscope for medical and clinical use ECLIPSE 55i

The ECLIPSE 55i employs white LED illumination as its light source — this enables lower-temperature operation than with conventional halogen lamps, and a drastic reduction in power consumption, from 48W to a mere 6W. The microscope can also be operated using lithium-ion batteries (optional). As with prior models, Köhler illumination is used for the aperture. The life of the light source has also been significantly extended, minimising waste and making the product more environmentally friendly.

- <Power consumption efficiency (brightness per power consumption) > 800% higher than the ECLIPSE E400.
- < Light source service life> About 80 times longer than the ECLIPSE E400.
- <Eco-glass usage> 100%

#### Overlay measurement system NRM-3100

With low aberration, high-S/N imaging system and high rigidity for more accurate stage positioning, this high-speed, high-resolution overlay measurement system accommodates 300mm wafers at throughputs of up to 150 wafers per hour in 90nm lithography process. User-friendly software minimises the time required to create recipes, contributing to superb operability. While throughput and power consumption have been maintained from the prior model, the supported wafer size has been improved from 200 to 300mm, and measurement resolution from 130 to 90nm. As a result, the new system can process 4.7 times more ICs per unit of power consumed.

- <Power consumption efficiency> 370% higher than the NRM-1000A.
- <Reduction in hazardous substances> No PBDE or PBB used as flame retardant in resin materials or wire sheathing.
- <Eco-glass usage> 89%

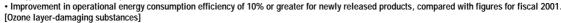


ECLIPSE 55i



NRM-3100

[Energy consumption efficiency]



• Reduction of IC and LCD steppers using HCFC to fewer than 15% of all products.



#### **Nikon Group Products**

#### • Portable laser rangefinder LASER 800S

The LASER 800, which has already earned high marks as a laser rangefinder for outdoor activities and sports such as golf, features a sophisticated fusion of telescope and electronics. Now it has been completely revamped for improved performance, and enhanced portability and environmental friendliness. Battery life has been significantly extended by reducing power consumption in standby and operation, and reducing measurement time. <Power consumption efficiency> 250% higher than the LASER 800.

- <Reduced product mass and volume> 22% less mass and 40% less volume than the LASER 800.
  <Longer life> Nitrogen-filled waterproofing prevents equipment malfunction caused by moisture.
- <Lead-free solder> Lead-free solder used on all circuit boards.
- <Reduction in hazardous substances> No PVC used in wire sheathing, body, case or strap. <Eco-glass usage> 100%

#### • Binoculars 8x42HG L D CF/10x42HG L D CF

Nikon's High-Grade binoculars deliver unrivalled performance. The body is tough yet lightweight, made from magnesium alloy and other low specific-gravity materials, with carefully crafted contours. The industry's first non-PVC elastomer was used in the body, eveniece caps, case and strap. The lenses are 100% Eco-glass.

<Reduced product mass> 8x42HG L D CF: 18.9% less than the old HG Series; 10x42HG L D CF: 19.4% less <Reduction in hazardous substances> No PVC used in internal or external components, case or strap. <Eco-glass usage> 100%



Smaller, lighter components lead-free board and PVC-free wiring





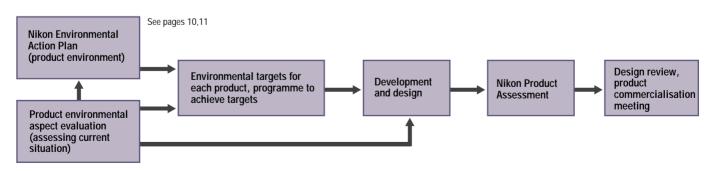


8x42HG L D CF

10x42HG L D CF

## **Future Activities**

We have established a rigorous system for environment-oriented design activities with continual enhancement. We are applying this system to greater energy efficiency improvement, full-scale usage of lead-free solders and Eco-glass, and the reduction of harmful heavy metals and polyvinyl chloride. We are confident that our activities will result in an entirely new level of environmental friendliness.



## **Containers and Packaging**

[Plastic containers and packaging]

**Targets** 

Reduction of at least 30% compared with figures from fiscal 2001.



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<br>chloride film         | 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<br>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. | Microscopes   | Cu             |
| Cushioning film                    | 2. Reduction in volume and content  | Support with elastic film enables significantly reduced consumption of cushioning material.  | Cameras   | - manual       |
| Reinforced cardboard boxes         | Reduction in volume and content     Recyclability     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<br>(for shipping to<br>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   | Reinforced car |
| 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).   | Microscopes   | A              |
| Steel pallet                       | Safety and ease of separation of materials     Reusability                      | Smoke sterilisation process used with wooden pallets is no longer necessary. This also contributes to conservation of the forests.   | Stepper   |                |
| 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, interchangeable lenses, microscopes              |                |
| Dedicated transport containers     | 6. Reusability  | Dedicated containers are used for shipment to certain corporations.  | Microscopes   |                |
| Polyethylene<br>bags               | 7. Marking regarding<br>packaging materials and<br>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.   |   |                |







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

• In fiscal 2003, use of plastic containers and packaging for consumer products increased to 159% in weight against fiscal 2001 levels due to the dramatic growth of the digital camera business. Despite our best efforts to reduce the use of plastic, the figure rose to 240% in weight in fiscal 2004.

• Through the use of single-material presentation cases and assembly-type packaging, as well as other methods, from fiscal 2002 through 2003 we achieved our target of eliminating the use of non-separable multi-material for new packaging in fiscal 2004.

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

#### 1. Sales of used steppers for reuse

Nikon Tec Corporation 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's willingness and capability to reuse its own products. Fiscal 2004 saw 46 significant achievements (compared to 12 in fiscal 2003), both domestically and abroad, contributing to a dramatic expansion of our business. The manufacturing department, which lends its efforts to the reproduction and control process, shortens the work period and supports business expansion by promoting the improvement of industrial tools and machines, standardising of the workflow and improving its efficiency and putting in place a framework for technical troubleshooting.

Nikon is conducting in-depth research on the needs of the semiconductor industry, in order to help companies in the field to expand their businesses. This is another area in which our dedication to environmental preservation, profitability and customer service shines through.

#### 2. Recycling of packaging materials and batteries in Japan (1) Packaging materials

Nikon have contracted the services of JCPRA (Japan Containers and Packaging Recycling Association) to collect and recycle packaging materials used during the sale of Nikon products.

Nikon and many other companies have engaged in cooperative efforts with JBRC (Japan Battery Recycling Center) to collect and recycle rechargeable batteries for digital cameras and other products discarded by consumers.

#### 3. 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.

## Activities in the Workplace Environment

## **Energy Conservation**

(anti-global-warming measures)

**Targets** 

[Greenhouse gas emissions]

• Reduction of at least 1% in average annual greenhouse gas emissions per net sales for five-year period from fiscal 1998 to fiscal 2002.



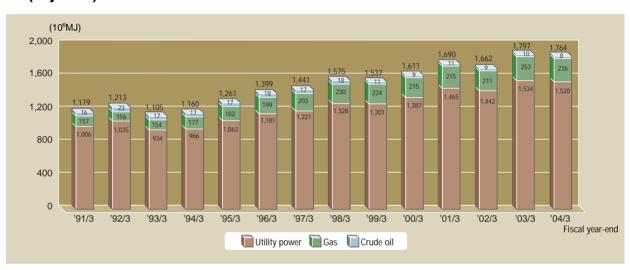
Carbon dioxide (CO2), which is released into the atmosphere when fossil fuels are burned, is the main cause of global warming. The Third Conference of the Parties (COP 3) to the United Nations Framework Convention on Climate Change in December 1997 stressed the need for a reduction in greenhouse gas 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 reduction in energy use, including electricity — a major source of CO<sub>2</sub> emission. We intend to reduce the average annual emissions of greenhouse gases by at

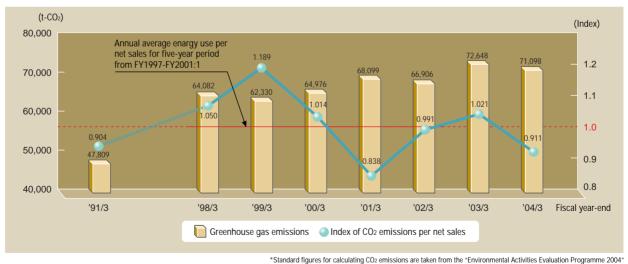
least 1% per net sales for the five-year period from fiscal 1998 to fiscal 2002.

In fiscal 2004, 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. As a result, we were able to achieve a 9% reduction in energy use, well beyond our target of 1%.

#### **Energy Use (in joules)**



#### CO<sub>2</sub> Emission/CO<sub>2</sub> Emission per Net Sales



"Standard figures for calculating CO2 emissions are taken from the "Environmental Activities Evaluation Programme 2004 (published by the Ministry of the Environment).

#### **Future Energy-saving Strategies**

We intend to implement the following strategies as we head into fiscal 2005.

- Reduction in harmful emissions from air conditioning
- Highly efficient operation 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

**Targets** 

[Waste generation]

• Reduction in amount of waste generation per net sales of at least 5% compared with figures from fiscal 2001.



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-

#### Generation, Disposal and Recycling of Waste

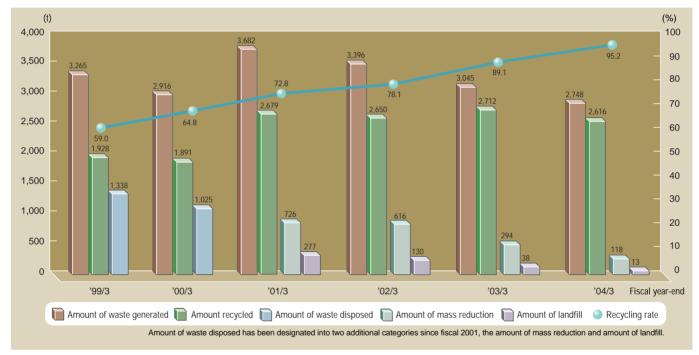
We implemented programmes to reduce both general and plastic waste, and strictly enforced refuse separation guidelines for this period, which enabled us to control our waste output (including that to be recycled). We also actively promoted the recycling of materials. As a result, our rate of resource recycling reached 95.2%, while we reduced landfill rate to 0.5%. We were also able to maintain zero-emission systems at all plants.

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.

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

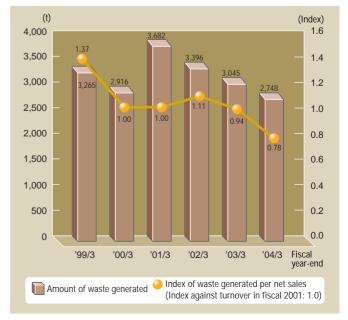
From this point forth, we will maintain our zero emission systems with emphasis on the  $3R^{*2}$  principle, and we will work to develop more recycling technologies and foster relationships with recycling agencies.



- \*1 Solid fuel created using refuse paper and plastic 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

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

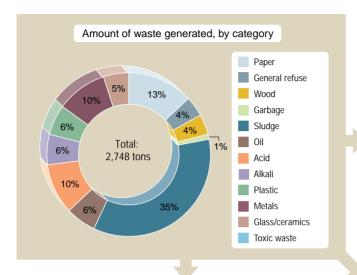
Nikon set a target to reduce waste generation by fiscal 2004 by at least 5% (compared with fiscal 2001 level per net sales) propelled by the momentum created by the 3R principle. We were able to realise our goal, reducing waste generation by 22% in fiscal 2004.

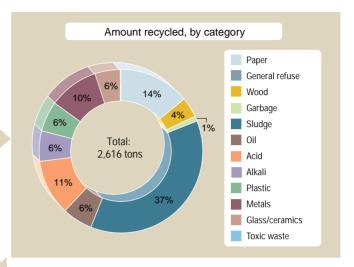


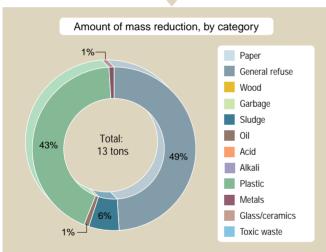
#### **Breakdown of Waste during Fiscal 2004**

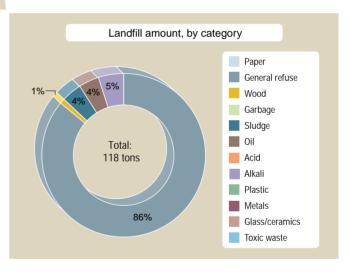
The breakdown of Nikon's waste during fiscal 2004 is as shown in the graphs below.

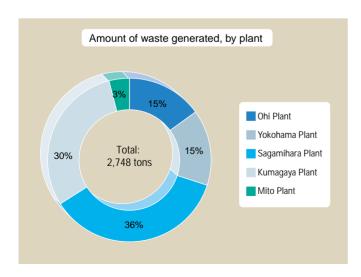
(Figures in the graphs have been rounded up or down to the nearest whole number, so some of the graphs do not total 100%).

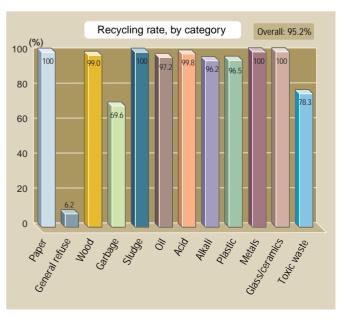












## **Activities in the Workplace Environment**

## **Zero Emissions**

[Zero emissions]

**Targets** 

 Achievement of zero-emission system for at least one more major manufacturing subsidiary.



Under the Nikon Environmental Action Plan, we established as a priority goal the achievement of zero-emission systems at all manufacturing sites in fiscal 2005, and have been working to reduce waste and promote recycling through a variety of programmes. As a result, we were able to achieve our goal well in advance of our original target date. Nikon's total waste output for fiscal 2004 was 2,748 tons, with a landfill rate of only 0.49%, representing a significant improvement from the 3,045 tons and 1.26% landfill rate of fiscal 2003.

#### **Examples of recycling**

| Paper   | Recycled paper<br>Paper materials (toilet paper)<br>Solid fuel                            |
|---------|---|
| Wood    | Return to vendors<br>Chips (raw material/compost)<br>Particle boards<br>Thermal recycling |
| Garbage | Return to vendors<br>Animal feed  |
| Sludge  | Fertilizer<br>Cement material<br>Thermal recycling  |
| Plastic | Raw material<br>Reducing agent for blast furnace<br>Thermal recycling                     |
| Metals  | Metal materials   |
| Glass   | Materials<br>Roadbed materials  |

| Nikon plant name | Target to develop zero-emission system |
|------------------|--|
| Ohi Plant        | Fiscal 2003 (completed)                |
| Yokohama Plant   | Fiscal 2003 (completed)                |
| Sagamihara Plant | Fiscal 2003 (completed)                |
| Kumagaya Plant   | Fiscal 2003 (completed)                |
| Mito Plant       | Fiscal 2003 (completed)                |

| Major manufacturing subsidiaries | Target to develop zero-emission system |
|----------------------------------|--|
| Sendai Nikon Corporation         | Fiscal 2002 (completed)                |
| Tochigi Nikon Corporation        | Fiscal 2004 (completed)                |
| Kurobane Nikon Co., Ltd.         | Fiscal 2004 (completed)                |
| Mito Nikon Corporation           | Fiscal 2005                            |
| Zao Nikon Co., Ltd.              | Fiscal 2005                            |

#### **Waste Sorting and Reduction**

Until recently, incineration was the most widely employed method of waste disposal in Japan. However, dioxin — a highly toxic chemical produced during incineration — is discharged into the atmosphere. It is believed that dioxin poses a serious threat to organisms at the top of the food chain — including human beings. With mass consumption accepted as the norm and a constant decrease in available landfill sites, it is more important than ever for us to make the wisest possible use of our valuable resources and reduce waste generation as much as possible.

Nikon is fully aware of the danger of dioxin and excess waste generation, and is making a serious and continuing effort to preserve our environment for our descendents through a range of activities including effective sorting and reduction of waste generation.

In the Nikon Group, a zero-emission system was attained at Nikon Sendai in February 2002, followed by the Mito Plant in September of the same year. By March 2003, the Ohi, Yokohama, Sagamihara and Kumagaya plants had also achieved zero emissions. In March 2004, Tochigi Nikon and Kurobane Nikon completed their zero-emission systems.

Definition of zero emissions: No more than 1% of total waste output is disposed of as landfill. Note that this excludes sewerage, household effluent and industrial waste water.

#### Recycling Day (Sagamihara Plant)

The 5th, 15th and 25th of each month are designated as Recycling Days. On these days we actively promote the recycling of unneeded resources such as paper (documents, newspapers, magazines, scrap paper, etc.) and plastic. After 12 years of continued efforts, Recycling Day is recognised as a tradition by the employees.

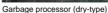


#### Reduction and Recycling Promotion (Tochigi Nikon)

Tochigi Nikon established its zero-emission system in fiscal 2004, and has been improving storage and transport efficiency by reducing waste volume. They are also promoting the recycling of sludge and waste plastic.









Cable protector made from recycled waste



Artificial lightweight aggregate made from

#### Recycling Garden Waste (Mito Plant)

The clippings from the lawn are pulverised and spread over the grounds to help control weed growth.





#### **Activities in the Workplace Environment**

## **Control of Chemical Substances**

[Chlorinated organic solvents]

 Reduction in use of chlorinated organic solvents in wash at all workplaces including major manufacturing subsidiaries, by at least 80% compared with figures from fiscal 1999.



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

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.

#### **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

## 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.

#### 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.

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

Reporting quantities of one ton or more has become required by law as of fiscal 2004. In accordance with the statute, here are the reports for each of our plants.



Nikon PRTR Guide

Unit: kg/yea

#### PRTR Survey Results for fiscal 2004

| Facility         | Substance | stance Substance name      | Volume  | A     | mount released | d    | Amount tra | ansferred | Amount                 | Amount removed for | Amount                |
|------------------|-----------|----------------------------|---------|-------|----------------|------|------------|-----------|------------------------|--------------------|-----------------------|
| racilly          | No.       |                            | handled | Air   | Public water   | Soil | Sewage     | Waste     | in on-site<br>landfill |                    | shipped<br>in product |
| Ohi Plant        | 144       | Dichloropentafluoropropane | 1,401   | 475   | 0              | 0    | 0          | 926       | 0                      | 0                  | 0                     |
| Yokohama Plant   | 145       | Dichloromethane            | 2,747   | 2,697 | 0              | 0    | 0          | 50        | 0                      | 0                  | 0                     |
| Sagamihara Plant | 230       | Lead and lead compounds    | 3,301   | 2     | 0              | 0    | 0          | 1,351     | 0                      | 0                  | 1,948                 |
|                  | 304       | Boron and boron compounds  | 4,099   | 3     | 0              | 0    | 0          | 1,674     | 0                      | 0                  | 2,422                 |
| Kumagaya Plant   | 227       | Toluene                    | 1,314   | 898   | 0              | 0    | 0          | 416       | 0                      | 0                  | 0                     |

<sup>\*</sup>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 Mito Plant

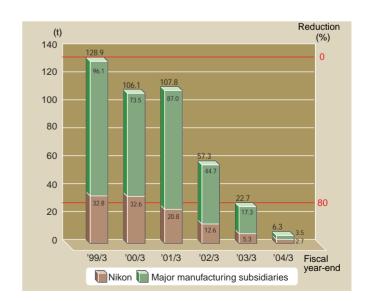
#### **Reduction in Chemical Substances**

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 by 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 2004 was 95% less than in fiscal 1999 — we achieved our goal of a reduction of no less than 80%.



## Prevention of Pollution and Protection of Air, Water and Land

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 waste water processing systems periodically to ensure safety.

#### Air and Water Quality Environmental Data for Fiscal 2004

**Ohi Plant** 

1-6-3, Nishi-Ohi, Shinagawa-ku, Tokyo 140-8601 +81-3-3773-1307

| Air (Air Pollution Control Law, Metropolitan Regulations) Unit: Dust: g/Nm³, NOx (nitrous oxides): ppm |           |                        |                |               |  |  |  |  |
|--|-----------|------------------------|----------------|---------------|--|--|--|--|
| Ite  | m         | Regulatory<br>standard | Plant standard | Actual (max.) |  |  |  |  |
| Boiler   | Dust      | 0.15                   | 0.12           | 0.003         |  |  |  |  |
| Dollei   | NOx       | 45                     | 45             | 43            |  |  |  |  |
|  | quipment/ | 0.15                   | 0.12           | 0.012         |  |  |  |  |
| 0  |           | 0.15                   | 0.12           | 0.009         |  |  |  |  |
| heating  |           | 0.15                   | 0.12           | 0.015         |  |  |  |  |
| equipment/<br>appliance  |           | 45                     | 45             | 29            |  |  |  |  |
| арриансе   | NOx       | 45                     | 45             | 27            |  |  |  |  |
|  |           | 45                     | 45             | 26            |  |  |  |  |

| Wa                 | ter Quality (Sewerage Law, Mo | gulations) Un       | it: mg/l, except for pl |               |
|--------------------|-------------------------------|---------------------|-------------------------|---------------|
|                    | Item                          | Regulatory standard | Plant standard          | Actual (max.) |
|                    | рН                            | 5.8-8.6             | 5.9-8.5                 | 6.3-8.1       |
|                    | BOD                           | 300                 | 240                     | 162.8         |
|                    | SS                            | 300                 | 240                     | 144.9         |
|                    | n-hexane (animal/vegetable)   | 30                  | 24                      | 22.5          |
| ent                | lodine demand                 | 220                 | 176                     | 3.9           |
| Living environment | Copper                        | 3                   | 2.4                     | 0.1           |
| envi               | Zinc                          | 5                   | 4                       | 0.2           |
| iving              | Soluble iron                  | 10                  | 8                       | 0.7           |
| _                  | Total chrome                  | 2                   | 1.6                     | 0.0           |
|                    | Fluorine                      | 15                  | 12                      | 3.1           |
|                    | Nitrogen                      | 120                 | 96                      | 17.4          |
|                    | Phosphorous                   | 16                  | 12.8                    | 1.13          |
| Health             | Lead                          | 0.1                 | 0.08                    | 0.00          |
| He                 | Dichloromethane               | 0.2                 | 0.16                    | 0.00          |

Yokohama Plant

471 Nagaodai-cho, Sakae-ku, Yokohama, Kanagawa 244-8533 +81-45-852-2111

| Alf (Air Pollution Control Law, Prefectural Regulations) Unit: NOx (nitrous oxides): ppm |      |                        |                |               |  |  |
|--|------|------------------------|----------------|---------------|--|--|
| Ite  | em   | Regulatory<br>standard | Plant standard | Actual (max.) |  |  |
|  |      | 65                     | 60             | 29            |  |  |
|  |      | 65                     | 60             | 34            |  |  |
| Boiler   | NOx  | 65                     | 60             | 37            |  |  |
| Boller   | 110% | 46                     | 42             | 21            |  |  |
|  |      | 46                     | 42             | 29            |  |  |
|  |      | 46                     | 42             | 30            |  |  |

|   | unit: mg/i, except for |
|---|------------------------|
| Water Quality (Sewerage Law, Prefectural Regulation | ns, City Regulations)  |

| Item               |  | standard | Plant standard | Actual (max.) |  |  |  |
|--------------------|--|----------|----------------|---------------|--|--|--|
|                    | рН   | 5.0-9.0  | 5.5-8.5        | 5.8-7.4       |  |  |  |
|                    | BOD  | 600      | 540            | 5.0           |  |  |  |
|                    | SS   | 600      | 540            | 9.7           |  |  |  |
|                    | n-hexane (mineral)                                     | 5        | 4.5            | 6.5 *1        |  |  |  |
|                    | Iodine demand  | 220      | 200            | 1.5           |  |  |  |
| ant                | Copper   | 1        | 0.9            | 0.0           |  |  |  |
| onme               | Zinc   | 1        | 0.9            | 0.0           |  |  |  |
| Living environment | Soluble iron   | 3        | 2.7            | 0.1           |  |  |  |
| /ing               | Soluble manganese                                      | 1        | 0.9            | 0.0           |  |  |  |
| É                  | Total chrome   | 2        | 1              | 0.0           |  |  |  |
|                    | Nickel   | 1        | 0.9            | 0.0           |  |  |  |
|                    | Fluorine   | 8        | 7              | 1.5           |  |  |  |
|                    | Boron  | 10       | 8              | 0.2           |  |  |  |
|                    | Lead   | 0.1      | 0.1            | 0.02          |  |  |  |
|                    | Arsenic  | 0.1      | 0.1            | 0.00          |  |  |  |
| Health             | Hexavalent chrome                                      | 0.5      | 0.4            | 0.00          |  |  |  |
| He                 | Trichloroethylene                                      | 0.3      | 0.2            | 0.00          |  |  |  |
|                    | Tetrachloroethylene                                    | 0.1      | 0.1            | 0.00          |  |  |  |
|                    | Dichloromethane  | 0.2      | 0.1            | 0.00          |  |  |  |
| *100               | *1 Occurred August 2003 (exceeded regulatory standard) |          |                |               |  |  |  |

<sup>\*1</sup> Occurred August 2003 (exceeded regulatory standard

Cause: Temporary inflow of oil and fat content from the facility into the drainage tank.

Corrective action: Recovered the drainage and cleaned the tank; strongly urged corrective action be taken to prevent similar accidents to the related department.

<sup>\*</sup> For explanations of terms such as ppm and pH, see glossary on page 25.

## Sagamihara Plant

1-10-1 Asamizodai, Sagamihara, Kanagawa 228-0828 +81-42-740-6300

| <b>Air</b> (Air Pollu | Air (Air Pollution Control Law, Prefectural Regulations) |                        |                |               |  |  |  |  |
|-----------------------|--|------------------------|----------------|---------------|--|--|--|--|
| Ite                   | m  | Regulatory<br>standard | Plant standard | Actual (max.) |  |  |  |  |
|                       |  | 0.15                   | 0.1            | 0.0016        |  |  |  |  |
|                       |  | 0.15                   | 0.1            | 0.0018        |  |  |  |  |
|                       | Dust   | 0.15                   | 0.1            | 0.0027        |  |  |  |  |
|                       | Dust   | 0.15                   | 0.1            | 0.0015        |  |  |  |  |
|                       |  | 0.15                   | 0.1            | 0.002         |  |  |  |  |
| Boiler                |  | 0.15                   | 0.1            | 0.005         |  |  |  |  |
| Boller                |  | 105                    | 100            | 38            |  |  |  |  |
|                       |  | 105                    | 100            | 43            |  |  |  |  |
|                       | NOx  | 105                    | 100            | 41            |  |  |  |  |
|                       | NOX  | 105                    | 100            | 8             |  |  |  |  |
|                       |  | 105                    | 100            | 7             |  |  |  |  |
|                       |  | 105                    | 100            | 5             |  |  |  |  |

| Wa                 | ter Quality (Sewerag | je Law, Prefectural    | Regulations)   | Unit: mg/l, except for pH |
|--------------------|----------------------|------------------------|----------------|---------------------------|
|                    | Item                 | Regulatory<br>standard | Plant standard | Actual (max.)             |
|                    | pH                   | 5.7-8.7                | 6.0-8.0        | 6.6-7.5                   |
| in t               | BOD                  | 300                    | 60             | 27                        |
| Living environment | SS                   | 300                    | 90             | <10.0                     |
| nviro              | Zinc                 | 3                      | 0.5            | 0.08                      |
| ing e              | Fluorine             | 12                     | 10             | 4.1                       |
| Ę                  | Boron                | 10                     | 5              | 0.37                      |
|                    | Ammoniac nitrogen    | 100                    | 100            | 14                        |
| _                  | Lead                 | 0.1                    | 0.08           | 0.05                      |
| Health             | Arsenic              | 0.1                    | 0.05           | <0.01                     |
| _                  | Dichloromethane      | 0.2                    | 0.1            | <0.002                    |
|                    |                      |                        |                |                           |

## Kumagaya Plant

201-9 Oaza-miizugahara, Kumagaya, Saitama 360-8559 +81-48-533-2111

| Air (Air Pollu | tion Control L | aw, Prefectural Reg    | gulations)     | Unit: Dust: g/Nm <sup>3</sup> ,<br>NOx (nitrous oxides): ppm |
|----------------|----------------|------------------------|----------------|--|
| Ite            | m              | Regulatory<br>standard | Plant standard | Actual (max.)  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                | Dust           | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.001  |
|                |                | 0.1                    | 0.05           | 0.003  |
| Boiler         |                | 0.1                    | 0.05           | 0.001  |
| Doller         |                | 150                    | 100            | 49   |
|                |                | 150                    | 100            | 51   |
|                |                | 150                    | 100            | 78   |
|                |                | 150                    | 100            | 89   |
|                |                | 150                    | 100            | 73   |
|                | NOx            | 150                    | 100            | 98   |
|                |                | 150                    | 100            | 56   |
|                |                | 150                    | 100            | 46   |
|                |                | 150                    | 100            | 44   |
|                |                | 150                    | 100            | 72   |
|                |                | 150                    | 100            | 77   |

| wa                 | ater Quality (Sewerage L    | .aw, Prefectura        | l Regulations) | Unit: mg/l, except for pH |
|--------------------|-----------------------------|------------------------|----------------|---------------------------|
|                    | Item                        | Regulatory<br>standard | Plant standard | Actual (max.)             |
|                    | ррН                         | 5.1-8.9                | 5.9-8.2        | 6.4-7.4                   |
|                    | BOD                         | 600                    | 150            | 5.9                       |
|                    | SS                          | 600                    | 50             | 14.0                      |
|                    | n-hexane (mineral)          | 5                      | 4              | <1.0                      |
|                    | n-hexane (animal/vegetable) | 30                     | 20             | 2.0                       |
|                    | lodine demand               | 220                    | 170            | <0.2                      |
| ent                | Copper                      | 3                      | 0.5            | <0.2                      |
| Living environment | Zinc                        | 5                      | 0.5            | <0.05                     |
| envi               | Soluble iron                | 10                     | 3              | <0.3                      |
| iving              | Total chrome                | 2                      | 1              | <0.2                      |
| _                  | Boron                       | 10                     | 4              | 1.8                       |
|                    | Nitrogen                    | 240                    | 60             | 24.0                      |
|                    | Ammoniac nitrogen           | 100                    | 30             | 17.5                      |
|                    | Phosphorous                 | 32                     | 15             | 7.8                       |
|                    | Cyanide                     | 1                      | 0.2            | <0.1                      |
| Health             | Lead                        | 0.1                    | 0.05           | <0.01                     |
| I                  | Hexavalent chrome           | 0.5                    | 0.1            | < 0.05                    |
|                    |                             |                        |                |                           |

**Mito Plant** 

276-6 Motoishikawa-cho, Mito, Ibaraki 310-0843 +81-29-240-1112

Unit: Dust: a/Nm3 NOx (nitrous oxides): ppm, SOx (sulfurous oxides): Nm<sup>3</sup>/h Air (Air Pollution Control Law, Prefectural Regulations)

| Ite    | m    | Regulatory<br>standard | Plant standard | Actual (max.) |
|--------|------|------------------------|----------------|---------------|
|        |      | 0.3                    | 0.27           | 0.007         |
|        | Dust | 0.3                    | 0.27           | 0.011         |
|        |      | 0.3                    | 0.27           | 0.016         |
|        |      | 180                    | 162            | 69            |
| Boiler | NOx  | 180                    | 162            | 50            |
|        |      | 180                    | 162            | 69            |
|        |      | 3.25                   | 0.67           | 0.013         |
|        | SOx  | 3.25                   | 0.67           | 0.019         |
|        |      | 3.25                   | 0.67           | 0.030         |

| Water Quality (Water Polls | tion Control Law | , Prefectural Regul      | ations) |
|----------------------------|------------------|--------------------------|---------|
|                            |                  | Unit: mg/i, except for p |         |

|                    | Item                        | Regulatory<br>standard | Plant standard | Actual (max.) |
|--------------------|-----------------------------|------------------------|----------------|---------------|
|                    | рН                          | 5.8-8.6                | 6.0-8.2        | 6.7-7.4       |
| ŧ                  | BOD                         | 20                     | 20             | 15.0          |
| Living environment | SS                          | 30                     | 30             | 68 *1         |
| viro               | n-hexane (animal/vegetable) | 10                     | 10             | 1.0           |
| ng er              | E. coli (daily average)     | 3,000                  | 2,700          | 174           |
| Ē                  | Nitrogen                    | 60                     | 60             | 57.6          |
|                    | Phosphorous                 | 8                      | 8              | 4.39          |

<sup>\*1</sup> Occurred May 2003 (exceeded regulatory standard)

#### **Soil Contamination Protection Measures (Sagamihara Plant)**

After the existing waste water treatment plant was dismantled in November 2002, a soil analysis carried out in accordance with Sagamihara City directives revealed fluorine contamination.

The five-point composite sample method\* of analysis produced a result of 0.95mg/litre, exceeding the maximum allowed by local regulations, 0.8mg/litre.

Investigative drilling was performed, identifying the area affected by the contamination, and Sagamihara City regulations were followed in processing. An investigation into possible restoration plans was made, and in February 2004 the contaminated soil was replaced by clean soil. The contaminated soil was processed appropriately as industrial waste (to be used as raw material for cement).

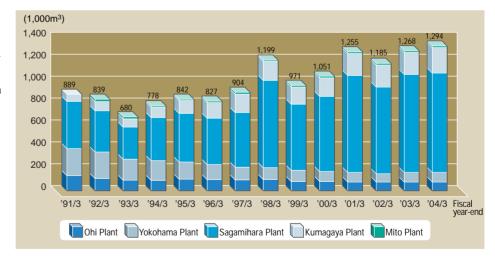
\* Maximum width 8m, length 9m, and depth 3.5m. Total contaminated soil volume was about 48m3.

It was confirmed that the contamination had not pervaded the local underground water system.



#### 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.

#### lodine 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.

Cause: Accumulation and decomposition of treated water in the digestion tank during long holidays. Corrective action: Ensure fluoroscopic check and water purifying are performed prior to long holidays to prevent decomposition.

#### **Activities Encompassing the Product and Workplace Environments**

#### **Green Procurement**

Nikon group has begun a programme of green procurement, which features a host of activities geared toward reducing 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".

- 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.

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, we collected their ideas and approaches to environmental preservation.

Our procurement department supports suppliers in their attempts to raise their assessment levels — particularly suppliers that are making an exceptionally diligent effort.

#### **Product Environment**

#### (1) Stricter Standards for Green Procurement, Based on Results of Supplier Survey

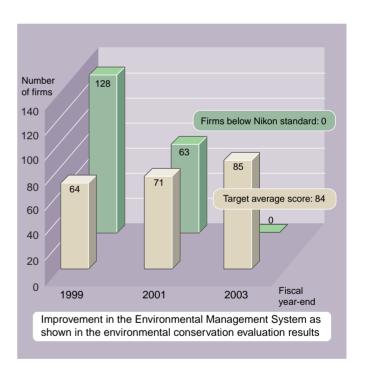
Environmental conservation evaluations were conducted in 1999, 2001 and 2003, to clarify the environmental initiatives of suppliers who play an important role in the manufacturing of a large number of Nikon products. By quantifying their individual and cumulative positions, and assessing the degree of change compared with the previous survey, we were able to further promote environmental awareness and provide the support requested by the suppliers.

Thanks to the exceptional efforts of our suppliers, we achieved an average score for fiscal 2004 of 85, representing a 21-point increase over the prior survey in fiscal 2000 (and exceeding our targets of an average score of 84 and a 20-point increase). None of the participating firms lost their positions as suppliers for failure to meet Nikon standards, demonstrating that the overall approach by the Nikon group to environmentally aware product manufacturing is having a decidedly positive effect.

Manufacturing companies within the Nikon group, specifically Tochigi Nikon, Mito Nikon, Sendai Nikon, Zao Nikon and Kurobane Nikon have also been assessed.

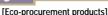
With the addition of new suppliers in fiscal 2005, we must continue our efforts to improve environmental management performance, and provide the assistance needed to attain our targets.

This year, as the first step in eliminating the use of hazardous substances in Nikon products, we focused on the consumer sector. Using tools developed by the Japan Green Procurement Survey Standardisation Initiative (JGPSSI), an arm of Japan Electronics and Information Technology Industries Association (JEITA), and other organisations, we conducted an investigation to identify the substances present, the products in which they were used and the quantities. In parallel with these efforts, we explored and developed alternative substances and technologies free of hazardous substances. In preparation for the implementation of The Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive\*, we have initiated efforts to acquire analytical technologies which will allow us to guarantee that our products do not contain any of the six forbidden substances. We have also begun developing a system to apply information gained through these efforts to the elimination of hazardous substances from new products during development.



#### \* RoHS Directive

This directive places restrictions on the use of hazardous substances in electrical and electronic equipment. As of July 1<sup>st</sup>, 2006, the use of hexavalent chrome, lead, cadmium, mercury, PBB and PBDE will be prohibited on the E.U. market for a wide range of electrical and electronic products.



• Preparation and introduction of guide to green procurement, and conformity with guidelines for at least 60% of purchases.



#### 2) Reduction of Hazardous Substances, Creation of Hazardous Substance Survey

Nikon has been an active participant in the Japan Green Procurement Survey Standardisation Initiative (JGPSSI), working to obtain necessary information relating to surveys of applicable chemical substances, survey formats, tools and legal trends, and preparing chemical-substance survey procedures for each individual product. The survey includes 29 substances specified by JEITA, and 11 specified as Class I Specified Chemical Substances under the Chemical Substances Control Law (two of the 13 substances identified in this law are also in the JEITA list). Based on this information, Nikon Group standards for hazardous substance management were disseminated to group companies.

From December 2003, presentations were given to ensure clear understanding of the information, and the following groups were asked to participate in the survey. Results are now being collected.

- 1. The Imaging Company and imaging departments in related group companies involved in cameras and related products.
- 2. The Instruments Company and related group companies involved in microscopes and industrial equipment.
- 3. Nikon Vision, which deals with binoculars and fieldscopes.
- 4. Sendai Nikon industrial equipment department, which handles encoders.

We will scrutinise the survey results, and apply them to product development using a system currently being established. In parallel with the survey, we have also been investigating alternative substances and technologies to replace a variety of hazardous substances, focusing on the six substances prohibited under the RoHS Directive. In addition to evaluating the potential and performance of the alternatives, and in preparation for the implementation of the RoHS Directive, we are working to acquire analytical technologies that will enable us to guarantee that our products are free of the prohibited substances.

The five items below are high-priority activities slated for fiscal 2005. We are making every effort to not only fully comply with the RoHS Directive and other laws and regulations, but also to respond to the demands of our customers to eliminate the use of hazardous chemical substances in our products and activities.

- 1. Major expansion in range of products and parts to be investigated.
- 2. Construction of an effective survey data-sharing system, to ensure comprehensive data dissemination particularly data for metallic materials and adhesives.
- 3. Continue to develop, and work toward the implementation of a system to utilise survey results in product development, and ensure the development of products free from hazardous substances.
- 4. Development of a simple analysis system within our quality inspection organisation, to ensure that our products are free of the six substances prohibited under the RoHS Directive.
- 5. Cooperative efforts with our suppliers to construct a supply chain completely devoid of hazardous substances.

#### **Workplace Environment**

The Nikon Group is in a gradual transition to products bearing the "Eco-mark" — this includes standard office supplies as well as parts procured and used by Group companies. The release of the "Nikon Group Green Purchasing Implementation Guidelines" this year has greatly broadened the scope of activities. The guidelines apply not only to office supplies, but to OA equipment and other machinery as well. Green procurement items are managed using two databases: one containing those items bearing any of the six related marks (including the Eco-mark), and GPN data, and the other for special procurement items under the Green Purchasing Law. As part of this programme to contribute to the procurement of environmentally friendly goods, Nikon has given about a dozen presentations, beginning in January of 2004.

We established a target for this fiscal year of 60% of such purchases to conform with the "Nikon Group Green Purchasing Implementation Guidelines." We are happy to report that we are off to an excellent start, with 66% of purchases made during the three-month period from January to March of 2004 conforming with the guidelines.

Nikon Group manufacturing subsidiaries have consented to implement this new system in fiscal 2005, regardless of whether or not the old green procurement system had been in place, and will be followed in the future by our sales subsidiaries.



Nikon Group Green Purchasing Implementation Guidelines



Green Purchasing Registration Mark and Database

### **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 procedures 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.

## **Environmental Management and Promotion of Measures**

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.)
- Link between midterm plan and target management, and conducting of seminars
- Presentations on "Nikon Environmental Action Plan"
- Green procurement education

#### **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 website posting 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 Section" via the company intranet and display of "Environmental Panels" at all plants
- Publication and distribution of "ISO Update" (Ohi Plant), "EMS News" (Yokohama and Sagamihara Plants) and "ISO 14001 News" (Mito Plant)
- Sharing of ideas for improvement mottos, posters and the like promoting environmental conservation, with recognition and prizes for the best ideas
- Organising environment month (Environmental month seminars, etc.)
- 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
- Publication of site report
- Participation in various environmental events



Internal environmental auditor development course

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. We are also active in various events that serve to strengthen our bonds with local communities.

#### **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
- Step-up seminar for internal environmental auditors
- Control of chemical substances (handling procedures, PRTR, etc.)
- Environmental facilities operation management
- Specialised industrial waste management qualification course
- Energy management course
- Pollution control management course
- Course for persons in charge of handling dangerous substances
- Emergency countermeasures (simulation of accidental leak)



Emergency countermeasures (simulation of accidental leak)



Step-up seminar for internal environmental auditors

## ISO 14001 certification acquisition support and related activities

Our Environmental & Technical Administration department is providing education and support for organisations within Nikon — and outside as well — that wish to acquire ISO 14001 and ISO 9001 certification.

## **Topics**

#### **Company-wide Environment Month Activities**

Nikon's 3<sup>rd</sup> annual Environmental Month was held from June 1<sup>st</sup> to June 30<sup>th</sup>. The event kicked off with a company-wide broadcast by Executive Vice President, and Member of the Board Yasujiro Hara, calling for "incorporation of the environmental action plan into management by objective (MBO), because without environmentally aware management we cannot remain internationally competitive." Environmental Month saw activities such as energy-conservation award presentations, emergency-response training, tours of waste

processing facilities, Environmental Month seminars, environmental quizzes, and

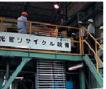
clean-up programmes around Nikon plants.



Emergency-response training Energy-Conservation Award (Ohi Plant)



(Sagamihara Plant)



Waste processing facility tour Environmental guiz (Yokohama Plant)



(Yokohama Plant)



Participants in clean-up of facility grounds and surrounding area (Mito Plant)

#### "Sai-no-Kuni" Ecological Awareness Declaration - Kumagaya Plant

This programme is designed to promote communication with the local community and reduce the environmental impact of business activities to comply with regulations for the protection of the daily living environment in Saitama Prefecture. Business operators formulate, implement and publicly announce their own plans for reducing environmental impact. The Kumagaya Plant announced its plans on June 27th.

The Kumagaya Plant's declaration set forth concrete targets and programmes for reduction of environmental impact. The declaration, which includes methods of verifying environmental impact, is on display in the plant lobby, accessible to the public.



Plant lobby Contents of declaration



Declaration certificate

#### "Energy Conservation Management Award" Presented by the Minister of Economy Trade and Industry – Tochigi Nikon

Mr. Toshio Itoh, Assistant General Manager of the Management Administration Department at Tochigi Nikon, was awarded the Minister's Award of 2003, one of the Energy Conservation Management Awards presented by the Minister of Economy Trade and Industry. This award is presented to individuals and facilities which have made exceptional progress in promoting and increasing the effectiveness of energy management.

The Nikon Group is committed to maintaining a high level of environmental awareness, and is actively engaged in myriad programmes to reduce energy and resource consumption. It is truly significant to receive government recognition for our efforts. Each and every Nikon employee will continue to perform their daily tasks with an awareness of their effect on the environment.



#### Vice President Serves as Environmental Management Officer, Inspects All Plants

In April and May 2004, after the conclusion of fiscal 2004 environmental activities, Executive Vice President Hara — acting Environmental Management Officer — toured Nikon plants. He saw first-hand the progress made in the workplace and product environments at each plant,

along with environmental measures implemented for each production site or facility.

Following his plant visits, he stressed the importance of Nikon's stance on environmental issues in terms of Corporate Social Responsibility (CSR), and our role as a good corporate citizen.







Sagamihara Plant



Kumagaya Plant



Mito Plant

#### **Outstanding Disaster Preparedness Award - Mito Plant**

In recognition of the Mito Plant's daily fire prevention practices and continued cooperation with the Mito Fire Department, the Mito City Fire Prevention Management Association presented Nikon's Mito facility with the Outstanding Disaster Preparedness Award on June 5th. The award was given for "recognising the importance of fire prevention management and significant results in preventing disasters, making this facility a model for others to follow."



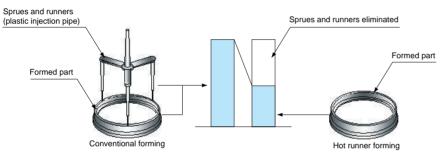


#### (Examples of Improvements)

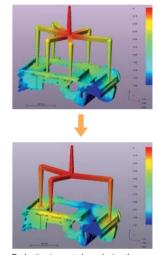
#### Technology for Reducing Waste in Mould Development (elimination of sprues/runners)

Cameras and interchangeable lenses employ a wide variety of plastic parts. These parts are made by injecting molten plastic into a mould. However, there is plastic remaining in the injection tubes referred to as sprues or runners — that is disposed of as waste.

We reviewed our mould design, adopting hot runner technology in the forming of precision parts. At the same time, we performed a dynamic analysis of plastic flow during forming to develop moulds which greatly reduce or prevent the forming of sprues and runners.



Example of waste elimination using hot runner technology



Reduction in waste by reducing the number of sprues and runners (dynamic flow analysis)

#### **Improved Collection and Sorting of Metal Scrap**

Thanks to an excellent idea from a plant employee, the collection and sorting of metal scrap has become significantly more effective. It is a device consisting of a vacuum cleaner with two used pails stacked one on top of the other connected to the cleaner, affectionately referred to as "Pochi No. 2", after the cart the vacuum cleaner is mounted on. By opening a small hole in the base of the top pail, metal scraps sucked up from the shop floor are caught in the top pail while cutting fluid collects in the bottom pail. The top pail can easily be exchanged for another, to enable organised collection of different metals.



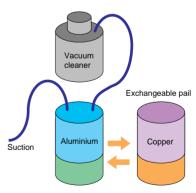
Pochi No. 2 in use



and cutting fluid into the bottom



Metal scraps are sucked into the top pail, 
Different types of metal stored in individual pails



Outline of Pochi No. 2

## Contributing to Society (Environment)

#### "Zero Trash" Event - Yokohama Plant

On May 30th, 32 people joined forces to clean up the area around the Yokohama Plant. The Zero Trash event, conducted on a particularly hot day, yielded 31 bags of trash of varying sizes. And though the event might not be described as "enjoyable", it met with great appreciation on the part of the local community.





#### Participation in "Global Environment Partnership Fair" - Mito Plant

The "Global Environment Partnership Fair" organised by Ibaraki Prefecture was held at the Ibaraki prefectural government offices on October 18th and 19th, the Mito Plant participated again this year, introducing environmental initiatives of their own, as well as those of the Nikon Group. Visitors were especially intrigued by environmental considerations in mould design, and zero-emission and energy-saving activities at the plant.

In an observation corner inside the booth, visitors got hands-on time with a Fieldmicroscope and binoculars. A telescope and magnifying glass-making workshop proved very popular among elementary school children.



#### Participation in Campaign to Halt Illegal Dumping - Sagamihara Plant

On November 8th, Sagamihara City held a campaign to encourage an end to illegal dumping. Sponsored by the Sagamihara City Beautification Movement Promotion Council, the event was held at the "Sagamihara Shimomizo Koyama Park and Athletic Grounds". This was the 12th such event, and the Sagamihara Plant is now a member of the Council as well. A speech by Sagamihara mayor Isao Ogawa kicked off the event, in which 600 people divided into three teams to collect approximately 10 tons of material, including televisions and refrigerators.



#### Participation in Yokohama City Forum - Yokohama Plant

Representatives from the Yokohama Plant took part in the "Yokohama City Forum" held on November 19th. The forum was chaired by Yokohama mayor Hiroshi Nakata and many residents were in attendance. A panel comprised of delegates from the five southern districts of the city discussed issues such as the "G30 Plan" for the reduction of waste in Yokohama. Nikon representatives outlined our environmental management stance and policies, status of implementation, and zero-emission efforts.

There wasn't an empty seat in the house — a clear indication of the genuine concern of city residents over environmental preservation.



#### Participation in "ECO Earth Day" - Ohi Plant

On February 21st the "ECO Earth Day" event was held at the Ohi Kurata Children's Centre in Shinagawa Ward, and the Ohi Plant participated for the first time. The centre stresses coexistence with nature, and to help children better understand the nature around them, activities were designed to be both enjoyable and instructive.

The Ohi Plant prepared a microscope observation corner for children to enjoy, along with a workshop in making telescopes and magnifying glasses, delighting both parents and children.



#### Planning Support, Participation in "Clean Up Hinuma Network" - Mito Plant

The Hinuma area, situated southeast of Mito City in Ibaraki Prefecture, is an estuarial fishing ground featuring a mixture of fresh and salt water. It is home to precious organisms such as the Hinuma dragonfly, and people from Ibaraki and elsewhere come to enjoy camping, fishing, windsurfing and

other activities. The "Clean Up Hinuma Network" is a joint initiative involving residents, businesses, organisations and government (national and local) involved with Hinuma and related rivers to improve water quality. It was established in March 2001, and the Mito Plant is one of the founding members.



















Nature observation event

## Contributing to Society (General)

#### COOLPIX Cameras Donated to Chernobyl Children's Fund - Nikon Photo Products Inc.

The Chernobyl Children's Fund is a non-government organisation established by photojournalist Ryuichi Hirokawa in 1991, with the aim of helping care for the children of chernobyl and assisting local aid organisations. Mr. Hirokawa told Nikon Photo Products Inc. that he wanted to introduce the children to photography, and on July 23<sup>rd</sup> Nikon made it happen with a donation of 20 COOLPIX digital cameras.

We received the following message of appreciation from Vecheslav Maksinski, Director of the "Hope 21 (Nadezhda) \*" Rehabilitation Centre in Belarus: "The children required digital cameras, but until now it was merely a dream. Thanks to this precious gift the children have another wonderful way to learn about the world. I thank Nikon from the bottom of my heart for this most generous gift of 20 digital cameras." He went on to describe how the children used the COOLPIX to learn about cameras, and created a newspaper which features images



they've taken themselves. They are delighted with their new COOLPIX, because now they can capture images just like real journalists.

\*The centre provides assistance and rehabilitation for children injured in the Chernobyl nuclear reactor accident, aiding some 2,800 children annually.

#### "Edible Crayon Workshop" On the Road - Mito Plant

The "Edible Crayon Workshop", a social welfare organisation, visited the Mito Plant on September 26<sup>th</sup> to sell their wares. Situated adjacent to the Mito Plant, the workshop was established in 1995 with the goals of helping to provide employment for the disabled and helping them learn to work together with those without disabilities. Today the workshop is staffed by 11 disabled and 50 volunteer workers. The Mito Plant has sold cookies and cakes made by the workshop at its in-house shop since about 1996. Now, on the last Friday of each month, the mobile workshop visits the plant during lunch hour to sell goods directly to plant employees.



## COOLPIX Cameras, Fieldmicroscope Donated to Higashi Torami Elementary School for Nature Preservation, Fish Breeding

We received the following letter from author Madoka Tsuburaya, a long-time user of Nikon cameras: "The Higashi Torami Elementary School near my home raises killifish and dragonfly nymphs, releasing them when they are large enough. They use a digital camera to record the growth of the creatures and their own activities, but are having a very difficult time taking good pictures. Would you be willing to donate a COOLPIX to them?"

The Higashi Torami Elementary School, run by Ichinomiya Town, Chiba Prefecture, has a total student body of 97, and pupils have been breeding and raising fish and other creatures since about 2000 for release to the wild. Their efforts have been praised for their close connection to environmental protection activities in the region. With over 100,000 of the nearly extinct killifish having been raised, the project now involves local residents who volunteer the use of rice paddies as nurseries.

We spoke with Fumio Tsukada, the principal of the school, and learned that though they could really benefit from a good digital camera, it wasn't financially feasible. He explained that their fish-raising activity was growing into a region-wide environmental protection effort. On October 15<sup>th</sup>, Nikon responded by donating three COOLPIX 3100 cameras and one Fieldmicroscope, which are being used by 6<sup>th</sup>-graders to study the growth of fish and other creatures, and to record their activities. The photographs are input into personal computers in PC class, and further processed and used.



#### Exhibition at Japan Bird Festival - Nikon Vision

Nikon Vision took part in "Japan Bird Festival 2003", the third edition of the event, held at Teganuma Aquatic Park near Teganuma on November 8th and 9th.

Teganuma was once known as one of the most heavily polluted wetlands in Japan, but the water quality has improved drastically in recent years, primarily through the efforts of Abiko City, enabling the area to regain its natural beauty and attract a host of avian life.

The Nikon Vision booth displayed a wide range of products from binoculars to Fieldscopes, highlighted by the Fieldscope ED82 and the Spotter XL II. The Fieldscope ED82 has been well-received by the market since its release. It is also widely used as a Digiscoping System through attachment to a digital camera. The booth attracted many visitors, and we were able to help people experience the enjoyment of natural photography.



## **Activities for Better Health**

The "Nikon Charter of Corporate Behaviour" calls for the provision of a "healthy and safe workplace environment," stating that "the assurance of health and safety for employees is the basis of active business expansion and richer individual lives." Nikon is sincerely

#### Helping Prevent "Lifestyle Diseases"

Diseases such as high blood pressure, high cholesterol levels, diabetes and heart disease are caused or exacerbated by people's lifestyles, and can place heavy burdens on both patients and their families. In an effort to help resolve this social problem, Nikon is working to cure and prevent such afflictions, providing regular check-ups and guidance for employees suffering from these diseases.

All employees are given regular medical check-ups twice a year, forming the basis for health promotion programmes, and a special check-up programme exists for employees over 34.

#### **Mental Health Care Activities**

Nikon places equal importance on physical and mental well-being. We hold lectures on mental health care, and provide guidance for employees working excessive overtime hours.



interested in helping its employees gain and maintain good health, offering regular medical checkups and a variety of health-promotion programmes.

#### **Smoking in the Workplace**

Based on the Health Promotion Law and the Workplace Smoking Guidelines issued by the Ministry of Health, Labour and Welfare, company facilities have essentially become no-smoking zones to prevent non-smokers from exposure to second-hand smoke. Smoking is only permitted in special smoking areas equipped with air cleaners, or in outdoor smoking areas. We will continue our efforts to provide our employees with healthy, comfortable workplaces.



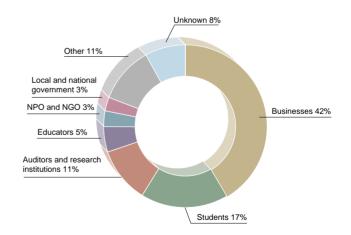
#### Other Activities

Throughout the year we hold a variety of physical activities to promote good health at plant units, such as bowling and baseball competitions.



## Requests Received for Nikon Environmental Report 2003

Since Nikon Environmental Report 2003 was uploaded to our web site in September 2003, we have received about 400 requests (as of the end of July 2004). This chart indicates the approximate number of copies requested by each of a number of sectors. Business accounted for the most copies requested, with the breakdown by type showing the service industry to be most interested, followed by advertising/printing and manufacturing. The second-largest sector was students, with four times as many requests for use in research than for job-hunting students. There were relatively few requests received from public institutions and housewives, so these numbers are represented in the "Other" portion. This data will be used in the composition and production of future reports.



## **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<br>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)  | The Basel Convention went into effect  |
|      | Restructuring of the Environmental Improvement Committee, establishment of the Environmental Committee (April)   | "Earth Summit" held in Rio de Janeiro  |
| 1993 |  | Basic Environment Law enacted  |
|      |  | Start of International Energy Star Programme   |
| 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   |
| 2002 | Sendai Nikon Corporation became first Nikon Group company to achieve a zero-emission system (February)  Mito plant became first Nikon plant to achieve a zero-emission system (September)                                | Soil Contamination Countermeasures Law enacted   |
| 2003 | Zero-emission systems completed at all Nikon plants (March)  | Environmental Protect Activities and Environmental Education Promotion Law enacted  WEEE & RoHS Law enacted in EU              |

#### Questionnaire

Thank you for taking the time to read "Nikon Environmental Report 2003".

We welcome any comments you may have regarding Nikon's environmental preservation activities, as well as the content of the report itself.

Please take a few minutes to fill out the questionnaire below. When you've completed the form, kindly return it to us by fax or mail:

Fax Environmental Administration Section Environmental & Technical Administration Dept. +81-3-3775-9542 Iail Environmental Administration Section Environmental & Technical Administration Dept. NIKON CORPORATION 1-6-3 Nishinhi Shinagawa-ku Tokyo 140-8601 Japan

| Comments:  |  |  |
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| How would vou  | ı rate the content   | s of "Nikon Environmental Report 2004"?  |
| ☐ Comprehensive  |  | ☐ Insufficient   |
| Comments:  |  |  |
| -  |  | s efforts toward environmental preservation?   |
| Exceptional  | ☐ Adequate   | ☐ Insufficient   |
| Comments:  |  |  |
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| Printed material Comments:   | only Printed mater   | ial and website  |
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| Which of the tit   | tles/positions bel   | ow best describes you (please choose only one)?  |
|  | -  | ow best describes you (please choose only one)?  Retailer/Supplier  Resident in vicinity of Nikon plant  |
| ☐ Consumer ☐ S☐ Member of gove   | Shareholder/Investor   | Retailer/Supplier Resident in vicinity of Nikon plant  Environmental NGO Education Public relations  |
| ☐ Consumer ☐ S☐ Member of gove   | Shareholder/Investor   | Retailer/Supplier Resident in vicinity of Nikon plant  Environmental NGO Education Public relations  |
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