Examples of Environmentally Friendly Product Development

Targets

[Energy consumption efficiency]
- **More than 30% improvement in overall energy efficiency of new products released, compared with figures of similar products already released.**

[Ozone layer-damaging substances]
- **Reduction of IC and LCD steppers using HCFC as a refrigerant to fewer than 20% of all products.**

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 lead- and arsenic-free 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-S308F

Featuring a projection lens with a world-leading standard and ultra-high N.A. of 0.92, this state-of-the-art lens-scanning ArF excimer stepper handles volume production of advanced 65nm or finer line-width devices. Its new body enables enhanced throughput and alignment accuracy, and power consumption efficiency has been optimised. The optical system uses as much eco-glass as possible.
<Power consumption efficiency> 63% higher than the NSR-S307E 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.
<Eco-glass usage> 96%

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-S308F

Imaging Company Products

The Imaging Company has steadily promoted the development of environment-conscious products. In recent years, we supported such activities to clear the RoHS Directive baseline*1 that goes into effect from July 2006 in Europe. In fiscal 2005, we managed to develop several such products.

* 1 RoHS Directive baseline
Restricts electric and electronic products sold in the European Union that contain environmentally damaging substances. In principle, the usage of hexavalent chrome, lead, cadmium, mercury, PBB and PBDE is prohibited unless there are no alternative materials. For detailed baselines that were not decided yet, we have adopted our own baseline.

● Digital SLR camera D2x

Incorporates Nikon's new proprietary 12.4-effective-megapixel CMOS sensor to provide superior-quality images. This professional digital SLR camera offers high-speed performance, including continuous shooting at about 5 frames per second and a start-up time as short as film cameras.
<Power consumption efficiency> 66% higher than the D1x, thanks to the power-efficient circuit design.
<Lead-free solder> All electronic circuit boards use lead-free solder.
<Reduction of hazardous substances> Clears RoHS Directive baseline*1 ahead of schedule.
<Eco-glass usage > 100%

D2x

● Digital SLR camera D50

The entry-level D50 digital SLR offers photo-shooting ease that anyone can master. Digital image program provides seven scene modes, including "Child", freeing you to concentrate on the moment for outstanding photos. An ideal camera for family use.
<Reduced product mass> 23% (160g) less than the D100.
<Lead-free solder> All electronic circuit boards use lead-free solder.
<Reduced hazardous substances> Clears RoHS Directive baseline*1 ahead of schedule.
<Eco-glass usage> 100%

D50

● Digital camera COOLPIX S1

Stylish, compact, lightweight digital camera with thin, full-metal body. Three advanced features*2 for more attractive faces. Versatile Scene Mode makes it easy to shoot beautiful photos.

* 2 World's first "Face-priority AF", "D-lighting", and "Advanced Red-Eye" support to shoot people in a wide range of situations.
<Power consumption efficiency> 63% higher than COOLPIX 5200
<Lead-free solder> All electronic circuit boards use lead-free solder.
<Reduction of hazardous substances> Clears RoHS Directive baseline*1 ahead of schedule.
<Eco-glass usage> 100%

COOLPIX S1

● Digital camera COOLPIX 5600

Easy, fun compact digital camera with 5.1 effective megapixels. Simple operation combined with high performance enables smooth shooting even for digital beginners.
<Power consumption efficiency> 123% higher than COOLPIX 3100
<Reduction of hazardous substances> Extensive reduction of hexavalent chrome, lead, cadmium, mercury, PBB and PBDE
<Eco-glass usage> 100%

COOLPIX 5600

● Interchangeable lens AF-S DX Zoom-Nikkor 18-55mm f3.5-5.6G IF-ED (comes with D50)

This zoom lens was developed specifically for use with Nikon digital SLR cameras. It spans the often-used focal length range from wideangle to mid-telephoto, and delivers a substantial reduction in mass and weight while providing superior resolution throughout the full focal range.
The Silent Wave Motor (SWM) delivers fast, quiet auto-focussing drive performance.
<Reduced product mass> 46% (180g) less than the AF-S DX Zoom-Nikkor 18-70mm f3.5-4.5G ED
<Lead-free solder> All electronic cuircuit boards use lead-free solder.
<Reduction of hazardous substances> Clears RoHS Directive baseline*1 ahead of schedule, PVC not used in main materials
<Eco-glass usage> 100%

AF-S DX Zoom-Nikkor 18-55mm f3.5-5.6G IF-ED

Instruments Company Products

● Industrial microscope ECLIPSE LV100Di

The ECLIPSE LV100D meets a diverse range of industry needs. With new standard objective lenses, specially designed digital cameras and diverse accessories, it responds flexibly to a wide variety of applications. Improved illumination optical system greatly enhances brightness and reduces the power consumption of the lamp house from 100W to 50W.
<Power consumption (brightness per power consumed)> 100% higher than the ME600L
<Number of parts used> 14% reduction
<Durability, easy repair> Electric revolver provides four times the power durability of existing lines, module structure enables simple part replacement.
<Reduction of hazardous substances> Major reduction of hexavalent chrome for surface treatment of mechanical parts such as structure, body, and screws, PVC not used in key materials such as electric wire.
<Eco-glass usage*> 92%

* Based on standard combination of condenser lens, illumination optics, and microscope body tube, except objective lens.

ECLIPSE LV100D

Nikon Group Products

●Surveying instrument field station GF-400/GF-400N series

Sophisticated, high-performance field station with distance/angle surveying and field-computer features. Multiple storage and transfer selections (USB, CF card, Bluetooth®, etc.) make for greater convenience, and distance surveying improvements (GF-400N: faster distance surveys) offer enhanced technical advantages. Reduced power consumption also contributes to the longest hours available with a one-time battery charge among all surveying instruments. The GF-400N non-prism surveying instrument, in particular, offers far-reaching improvements in the time required for measurements. Compared with existing products, it provides eight times more surveying time per power consumption.
<Power consumption efficiency> Approximately 700% greater than the GF-300N (GF-400N).
<Battery use time> 25% longer than GF-300N (GF-400), 33% longer than GF-300N (GF-400N).
<Reduction in hazardous substances> Shift to nylon from PVC for dust-proof cover used for surveying downtime.
<Eco-glass usage> 100%

GF-400N

● Portable laser rangefinder Monarch Gold Laser1200

An advanced version of the Laser 800S, which has earned high marks as a laser rangefinder for outdoor activities and sports such as golf, as well as engineering construction. The Laser1200 offers sophisticated long-distance measurement of up to 1,200 yards.
While reducing drain on the battery, Nikon has improved performance with the same number of parts as earlier models.
<Power consumption efficiency> 50% higher than the LASER 800S.
<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; no hexavalent chromate treament.
<Eco-glass usage> 100%

Monarch Gold Laser 1200

Lead-free board

● Binoculars ProStaff WP 8x25, 9x25, 10x25, 12x25

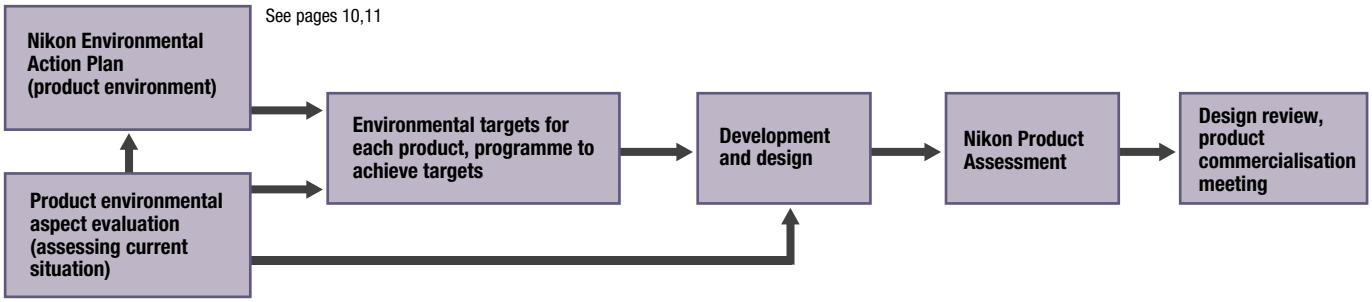
Sophisticated Nikon compact binoculars with lightweight, waterproof body. Aspherical eyepiece lenses deliver a sharper view to the edge of the field. Other performance features include improved viewing adjustment.
<Reduced product mass> ProStaff WP 8x25: 21% (95g) less than Sherte II 8x25.
<Longer life> Nitrogen-filled waterproofing prevents equipment malfunction caused by moisture.
<Reduction in hazardous substances> No PVC used in internal or external components, case or strap; no hexavalent chromate treatment; usage of lead-free, free-cutting alloy
<Eco-glass usage> 100%

ProStuff WP 10x25

PVC-free case

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, the reduction of harmful heavy metals and PVC, and clearing the RoHS Directive baseline ahead of schedule in Europe. We are confident that our activities will result in an entirely new level of environmental friendliness.



Activities in the Product Environment

Containers and Packaging

Targets

[Plastic containers and packaging]
- **Reduction per net sales of at least 20% compared with figures from fiscal 2003 for consumer products.**

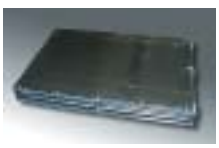
Nikon defined its "Environmental Policy Regarding Packaging Materials" in May 1998, and reviewed it in June 2000. This policy has seven main points:
1. Elimination of harmful substances. 2. Reduction in volume and content. 3. Recyclability. 4. Safety and ease of separation of materials. 5. Use of recycled resources. 6. Reusability. 7. Marking regarding packaging materials and handling precautions.

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

Theme	Policy	Contents	Application
Non-vinyl chloride film	1. Elimination of harmful substances	Switch from use of vinyl chloride material, which is considered a major source of dioxin, to non-vinyl chloride materials such as polypropylene.	Wrapping materials for equipment such as steppers
Plant-derived filler materials	2. Reduction in volume and content	Plant-derived filler materials are made from bean and wheat husks. They are significantly safer and more environmentally friendly filler materials than those derived from crude oil. We also use biodegradable resins in packaging containing filler materials.	Microscopes
Cushioning film	2. Reduction in volume and content	Support with elastic film enables significantly reduced consumption of cushioning material.	Cameras
Reinforced cardboard boxes	2. Reduction in volume and content 3. Recyclability 5. Use of recycled resources	Adoption of reinforced three-layer cardboard boxes has enabled a significant reduction in weight and volume of packaging in comparison with old-style wooden boxes.	Stepper body (for shipping to certain destinations)
Single-material presentation cases	4. Safety and ease of separation of materials	Use of film in presentation cases has been eliminated. Cases are now made from paper only, for ease of breakdown and decomposition.	Accessories
Assembly-type packaging	4. Safety and ease of separation of materials	The filler material and the cardboard are assembled manually for ease of separation later. Old-style packaging involved a fusing of different materials (cardboard and a crude-oil derived filler material).	Microscopes
Steel pallet	4. Safety and ease of separation of materials 6. Reusability	Smoke sterilisation process used with wooden pallets is no longer necessary. This also contributes to the conservation of 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 bags	7. Marking regarding packaging materials and handling precautions	All packaging material is marked to facilitate separation. All bags, other than those of extremely small size, are marked with a warning of suffocation risk to infants.	


Cushioning film


Reinforced cardboard boxes


Steel pallet


Pulp moulding

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

- In fiscal 2004, use of plastic containers and packaging for consumer products increased by 37% in weight against fiscal 2003 levels due to the dramatic growth of the digital camera business. As a result of our best efforts to reduce the use of plastic, the figure decreased by 5% in weight in fiscal 2005.
- Through the use of single-material presentation cases and assembly-type packaging, as well as other methods, from fiscal 2003 through 2004 we achieved our target of eliminating the use of non-separable multi-material for new packaging in fiscal 2005.

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

Since fiscal 2001, Nikon Tec Corporation has been collecting used steppers discarded by customers, then reconditioning and reselling them for new users, in Japan and overseas, with appropriate services supplied. This is an example of Nikon's willingness and capability to reuse its own products. Nikon Tec Corporation has enhanced this business by combining customer satisfaction with an aggressive stance toward environment protection, contributing to society in order to provide a secure income.

Thirty-three steppers were shipped in the period from fiscal 2001 to fiscal 2003, followed by 46 steppers in fiscal 2004, and 59 steppers in fiscal 2005. With this steady growth, by fiscal 2005 the total volume of shipments had reached 138 units. The manufacturing department, which lends its efforts to the reproduction and control process, shortens the work period radically 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.

(2) Batteries

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, batteries and used products in Europe

(1) Packaging materials and batteries

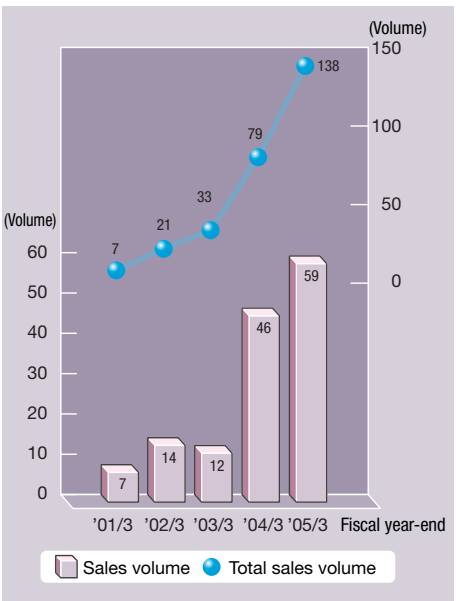
Our overseas subsidiaries participate in recycle associations that gather and recycle packaging materials used during the sale of Nikon products , as well as used camera batteries from users.

(2) Used products

Reflecting the WEEE Directive* and policies in the EU and individual European countries, used Nikon products must be recycled and disposed of properly in those areas. We have investigated the situation with our overseas subsidiaries in the relevant countries and begun preparing to take specific concrete measures.

*WEEE Directive: Manufacturers of major electric and electronic equipment are responsible for recycling used products from August 2005.

Sales volume of Nikon used steppers



NSR-2205i 12D, a popular used product