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Editorial Line

At NTN Group, we have been conducting our business activities with the concept “Coexist with the environment” in all departments from the development and production of products to distribution and service. Since we issued our first Environmental Action Report in 1999, we have used this report to disclose important information to all our stakeholders -- our investors, stockholders, suppliers and customers, subcontractors and those residing near our plants. In this report, we will introduce the environmental actions that the NTN Group and its employees have taken as part of our daily business activities.

We refer to the Environmental Report Guidelines 2003 issued by the Ministry of the Environment and focused on the results of our activities for fiscal 2004 (April 2004 thru March 2005). (Some contents are from after fiscal 2004) In addition, we took great effort to give detailed accounts in terms that are easy to understand. We hope that through this report, the proposition “Conserving the global environment” will bring us (join us) together.

To promote better environmental activities, we await your candid opinions and suggestions. The opinions obtained through the attached questionnaire will be used to improve our activities, therefore we appreciate your cooperation.

June 2005

Corporate Data

(As of March 31, 2005)

Corporate Name NTN corporation
Head Office 1-3-17 Kyomachibori, Nishi-ku, Osaka, 550-0003 Japan
Phone: 81-6-6443-5001 (switchboard)
Date founded March 1918
Date incorporated March 1934
President Yasunobu Suzuki
Number of Employees 5,465 (NTN corporation) 12,788 (Consolidated)
Fiscal term March 31st
Capital ¥39.6 billion
Net Sales ¥292 billion (Consolidated: ¥388.3 billion)
Stock Listed on the first section of the Tokyo Stock Exchange and the Osaka Securities Exchange
Aiming to Coexist with the Global Environment

At the NTN Group, we ask ourselves what we can do as inhabitants of this planet -- and we understand the importance of taking action.
Message from the President

Environmental problems have become increasingly serious on a global level such as global warming, increased pollution, and the depletion of resources. We must move beyond the framework of country, company and region and ask ourselves “what should we do to solve environmental problems?” and take action accordingly.

The bearings and constant velocity joints that the NTN Group provides are essentially “eco-friendly products” in that they reduce energy loss and improve efficiency and we are actively promoting the development of environmentally responsive products -- striving for compact size, low torque, high efficiency and longer life. Additionally, for future environmental conservation, we are actively introducing wind and solar power generation systems with the understanding that the utilization of natural energy is the key to conservation. Using our original technology, we are developing and commercializing “high performance bearings for wind power generators.”

With regards to the main items we set up the previous fiscal year (such as global warming prevention and the reduction of waste materials), we have met our environmental targets. For CO2 emission, at present, we have met the reduction targets of trade organizations (The Japan Bearing Industrial Association cooperating with the Japan Business Federation) and NTN’s voluntary reduction targets. However with the issuance of the Kyoto Protocol this February, further voluntary efforts are anticipated and we will set still higher targets for fiscal 2010 and work to reduce CO2 emission.

We at NTN are working to expand our environmental management from domestic to overseas and to include our suppliers. With regards to ISO14001, NTN Omaezaki Works (domestic), NTN-NIDEC (ZHEJ JANG) CORP (China), and GUANGZHOU NTN-YULON DRIVETRAIN CO., LTD (China) have been newly added giving us a total of 13 domestic operating sites and 12 overseas operating sites with the certification. This fiscal year we aim to achieve the ISO certification at one domestic site and one overseas site that recently started operations. Additionally, we have requested of environmental certification from all our major suppliers and are working to expand this circle of environmental management. We support the certification process for suppliers with smaller operations and in order to reduce the expense of these processes, NTN has suggested a simpler certification level, “Eco Stage Introductory Level,” to be accepted at the examining authority and we hope this will lead to an expansion in the acquisition of the certification.

The NTN Group has begun efforts with our midterm management plan “Rapid Advance 21” and through the “Monozukuri movement” we have promoted the efficient use of all production resources such as human resources, raw materials, and energy. At the NTN Mie Works, opened the previous fiscal year as a model Monozukuri plant, we worked to make the production facilities more compact and utilize natural energy and strove to reduce the environmental impact.

We have compiled these efforts into the “Environmental Action Report 2005.” We have incorporated the opinions and suggestions of our past readers and tried to make the layout easier to understand. We hope that you will take the time to review this report. We invite our investors, stockholders, and suppliers and customers to submit their candid opinions and suggestions so that we can refine our environmental conservation activities.

Yasunobu Suzuki
President
NTN corporation
NTN Environmental Policy

Basic Concept

Advocating harmony with the global environment is our most important issue and we will make constant efforts to contribute to the harmonious development of society, while aiming to reduce environmental impacts and contribute to a recycling society.

Action Guideline

In connection with its manufacture and sales of bearings, constant velocity joints and precision equipment, the NTN Group will comply with the following guidelines, which state our commitment to continuously reduce harm to the environment from our business activities, products and services and to maintain a safe environment for the future.

1. NTN will contribute to world-wide energy conservation by developing and providing eco-conscious products using state-of-the-art high precision techniques and friction-reducing technology.

2. NTN not only will comply with the standards and requirements set forth in applicable governmental laws and regulations but also with customers' requirements and internal standards, which NTN will establish as it deems necessary.

3. Beginning at the research, development, and design stages, NTN will endeavor to reduce harm to the environment.

4. In its purchases of raw materials, parts, and equipment, NTN will take into account protection of the environment, preservation of resources and more efficient use of energy. In its production and sales activities, NTN will endeavor to reduce energy consumption and waste generation and promote recycling.

5. NTN will endeavor to implement production methods and distribution systems that have less environmental effect in terms of use of resources, energy, pollution, and waste.

6. NTN will conduct environmental audits and will endeavor to maintain and improve corporate environmental management systems.

7. NTN will cooperate in programs for environmental protection conducted by national and local governmental entities and will participate actively in regional environmental activities.

8. NTN will conduct environmental education and company-wide promotion activities. NTN will promote improved awareness of this Environmental Policy and environmental protection to all persons working for and on behalf of NTN Group.

Kenji Okada
Managing Director
Chief Environmental Management Officer
NTN corporation
April 1, 2005
To Coexist with the Environment
— Environmental Management —

At NTN, we aim to coexist with the global environment, and we strive to fulfill all legal standards and to achieve our voluntary targets.
At NTN, we have established the “NTN Environmental Policy” and all our business activities are based on it. We have made continuous and coordinated efforts to reduce environmental hazards and our aim is to coexist with the global environment.

Our environmental conservation activities started in 1993 with the establishment of the Environmental Conservation Committee in all departments (including the head office, R&D, manufacturing, sales and logistics). This committee was later renamed the Environmental Management Committee and promotes efforts in environmental conservation. The Environmental Management Department is the head office for environmental conservation activities for the entire company and the Environmental Management Division at each site plays a central role in the activities of that location.

### Chronology of the NTN Group’s Environmental Conservation Initiatives

<table>
<thead>
<tr>
<th>Details of Efforts</th>
<th>Fiscal Year</th>
<th>New laws, International treaties established</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Conservation Committee established</td>
<td>1993</td>
<td>The Basic Environment Law is established</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane phased out</td>
<td>1994</td>
<td>The Basic Environment Plan is settled</td>
</tr>
<tr>
<td>CFC113 phased out</td>
<td>1995</td>
<td>Containers and Packaging Recycling Law is established</td>
</tr>
<tr>
<td>Iwata Works begins preparations to acquire ISO14001 certification</td>
<td>1996</td>
<td>ISO14001, JISQ14001 established</td>
</tr>
<tr>
<td>Environmental Management Guide established</td>
<td>1997</td>
<td>The Kyoto Protocol is adopted</td>
</tr>
<tr>
<td>Changed the Environmental Conservation Committee to the Environmental Management Committee</td>
<td>1998</td>
<td>Legislation established for the promotion of global warming countermeasures</td>
</tr>
<tr>
<td>Iwata Works acquires ISO14001 certification</td>
<td>1999</td>
<td>Law Concerning Special Measure against Dioxins established</td>
</tr>
<tr>
<td>A total of 13 operating sites acquired ISO14001 certification (multi-site)</td>
<td>1999</td>
<td>PRTR Law established</td>
</tr>
<tr>
<td>Issued first edition of NTN Environmental Action Report</td>
<td>1999</td>
<td>The Basic Law to promote the creation of a recycling society</td>
</tr>
<tr>
<td>Development of ECO series product</td>
<td>2000</td>
<td>Law on promoting green purchasing established</td>
</tr>
<tr>
<td>Trichloroethylene phased out</td>
<td>2000</td>
<td>The Basic Law to promote the creation of a recycling society</td>
</tr>
<tr>
<td>Disclosed Environmental Accounting</td>
<td>2000</td>
<td>Law on promoting green purchasing established</td>
</tr>
<tr>
<td>Iwata Works transferred to ISO14001 (multi-site)</td>
<td>2000</td>
<td>The Basic Law to promote the creation of a recycling society</td>
</tr>
<tr>
<td>Dichloromethylene phased out</td>
<td>2001</td>
<td>Law Concerning Special Measures against PCB Waste issued</td>
</tr>
<tr>
<td>PRTR Law Countermeasures (database)</td>
<td>2001</td>
<td>Law for Promotion of Effective Utilization of Resources established</td>
</tr>
<tr>
<td>Respond to EU’s End-of-Life Vehicles Directive</td>
<td>2002</td>
<td>Soil Contamination Countermeasures Law established</td>
</tr>
<tr>
<td>Start manufacture and distribution of grinding swarf briquetting machine</td>
<td>2002</td>
<td>Automobile Recycling Law established</td>
</tr>
<tr>
<td>Achieved zero emission for all domestic operating sites</td>
<td>2003</td>
<td>Revision of the Waste Disposal and Public Cleaning Law</td>
</tr>
<tr>
<td>Incorporated NTN Casting into ISO14001 (multi-site)</td>
<td>2003</td>
<td>Implementation of Soil Contamination Countermeasures Law</td>
</tr>
<tr>
<td>Incorporated NTN Omaezaki Works into ISO14001 (multi-site)</td>
<td>2004</td>
<td>Kyoto Protocol was put into effect</td>
</tr>
<tr>
<td>Completed cleanup of polluted ground at old operating sites (Kishiwada and Kawachi Nagano, Osaka)</td>
<td>2004</td>
<td>ISO14001 revised</td>
</tr>
</tbody>
</table>

*At some sites, the Management Section or the General Administration Office is in charge of this operation.*
Environmental Management

Results for Fiscal 2004 and Targets for Fiscal 2005

Results for Fiscal 2004

As our environmental goal for fiscal 2004, NTN upheld 13 concrete targets (domestic: 11 items, overseas: 2 items) in three categories: “Conservation of global environment,” “Contribution to a recycling society,” and “Maintenance and improvement of environmental management system.” As a result, we were able to meet our targets for 11 items, such as the reduction of CO₂ and maintaining zero emission (domestic).

Concerning the promotion of zero emission, we were able to maintain a high standard of 99% in Japan, but for overseas, which we added to our target last year, we were unable to achieve zero emission. In the future, we will promote activities to improve various forms of recycling overseas.

In addition, with regards to the conservation of resources such as with packing materials and recoverable resources (Styrofoam, cardboard, paper, etc.), we have met all our number targets. Our voluntary target of phasing out coolants that contain chlorine is not a legal restriction, and we were unable to meet our target. We will continue to work towards an early phase out of chlorine in coolants.

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<table>
<thead>
<tr>
<th>Objective</th>
<th>Target for Fiscal 2004</th>
<th>Result for Fiscal 2004</th>
<th>Evaluation*1</th>
<th>Page</th>
</tr>
</thead>
</table>
| **Conservation of Global Environment** | Reduce CO₂ emission | Domestic | • CO₂ emission rate: 17% reduction relative to fiscal 1997 | • CO₂ emission rate: 18% reduction relative to fiscal 1997 |YOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOYOY
Environmental Target for Fiscal 2005

The environmental targets for fiscal 2005 were based on the efforts and results of fiscal 2004. This year’s targets also included concrete items to further reduce environmental hazard.

For “Conservation of global environment,” we are working to reduce environmental hazards by promoting activities such as CO2 emission reduction and development of eco-friendly products. Additionally, we have expanded the regional environmental preservation activities at Iwata Works and started participating in local greening activities on a corporate level.

For “Create a recycling society,” we continued our efforts to maintain zero emission in Japan and expanded use of the grinding swarf briquetting machine to overseas sites in order to promote zero emission.

For “Maintaining and improving the environmental management system,” we enhanced our environmental hazardous substance management system and promoted voluntary elimination to improve green procurement.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Target for Fiscal 2005</th>
<th>Target for Fiscal 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce CO2 emission</td>
<td>Domestic</td>
<td>• CO2 emission rate: 20% reduction relative to fiscal 1997</td>
</tr>
<tr>
<td>Prevent air, water and ground pollution</td>
<td>Domestic</td>
<td>• Number of halon extinguishers replaced with carbon dioxide extinguishers: 115 units or more</td>
</tr>
<tr>
<td></td>
<td>Domestic</td>
<td>• Elimination of coolants with chlorine: phase out (2 remaining)</td>
</tr>
<tr>
<td></td>
<td>Domestic</td>
<td>• Response to Soil Contamination Countermeasures Law</td>
</tr>
<tr>
<td>Promote the development of eco-friendly products</td>
<td>Domestic</td>
<td>• Sales amount for eco-friendly products: +10% relative to fiscal 2004</td>
</tr>
<tr>
<td>Participation in Regional Environmental Preservation Activities</td>
<td>Domestic</td>
<td>• Participation in regional green activities</td>
</tr>
<tr>
<td>Reduce waste materials</td>
<td>Domestic</td>
<td>• Promote zero emission: recycle rate 98% or more</td>
</tr>
<tr>
<td></td>
<td>Overseas</td>
<td>• Promote zero emission: recycle rate 94% or more</td>
</tr>
<tr>
<td>Protect resources</td>
<td>Domestic</td>
<td>• Styrofoam: 84% reduction relative to fiscal 1999</td>
</tr>
<tr>
<td></td>
<td>Domestic</td>
<td>• Paper consumption: 28% reduction relative to fiscal 1998</td>
</tr>
<tr>
<td>Maintain and improve environmental management structure</td>
<td>Promote green procurement</td>
<td>Domestic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promote ISO14001 Multi-Site Certification</td>
<td>Domestic</td>
</tr>
<tr>
<td></td>
<td>Promote environment management of the supply chain</td>
<td>Domestic</td>
</tr>
<tr>
<td></td>
<td>Respond to new laws</td>
<td>Domestic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Business Activities and Environmental Hazard

**INPUT and OUTPUT in Manufacturing**

For fiscal 2004, the production amount (INPUT) for NTN as a whole increased 12% in relation to the previous year. However, as a result of energy conservation measures and efforts towards zero emission, we were able to keep CO₂ emission (OUTPUT) down to a 9% increase.

### Environmental Accounting

**Increased economic effect through environmental accounting**

In NTN’s environmental accounting for fiscal 2004, the total cost for environmental equipment and environmental preservation was ¥4,376 million. The financial effect of environmental preservation activities exceeded that of the previous year at ¥356 million.

#### Environmental preservation costs

<table>
<thead>
<tr>
<th>Classification of Environmental Preservation Costs</th>
<th>Environmental Equipment Investment</th>
<th>Environmental Preservation Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Cost of in-factory facilities</td>
<td>Pollution prevention costs</td>
<td>46</td>
</tr>
<tr>
<td>(Environmental preservation cost for inhibiting environmental hazards caused by business activities)</td>
<td>Global environmental preservation expenses</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td>Resource recycling expenses</td>
<td>41</td>
</tr>
<tr>
<td>2) Upstream/downstream expenses</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(Environmental preservation cost for inhibiting environmental hazard caused upstream and downstream from the business activities)</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>3) Management activity expenses</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(Environmental preservation cost for management activities)</td>
<td></td>
<td>217</td>
</tr>
<tr>
<td>4) R&amp;D expenses (Environmental preservation cost for R&amp;D)</td>
<td></td>
<td>681</td>
</tr>
<tr>
<td>5) Social activity expenses</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>(Environmental preservation cost for social activities)</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>6) Environmental remediation expenses (Cost for environmental remediation)</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

**Grand total**: 975 million yen/year

**(Reference) Grand total for previous year**: 2,086 million yen/year

#### Impact of environmental preservation

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Result (for fiscal 2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂ emission rate</td>
<td>18% reduction relative to fiscal 1997</td>
</tr>
<tr>
<td>Reduction of waste</td>
<td>Recycle rate 99%</td>
</tr>
<tr>
<td>Reduction in cardboard box purchase factor</td>
<td>19% reduction relative to fiscal 1998</td>
</tr>
</tbody>
</table>

#### Financial effect of environmental preservation activities

<table>
<thead>
<tr>
<th>Items</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost reductions through resource conservation</td>
<td>71</td>
</tr>
<tr>
<td>Cost reductions through energy conservation</td>
<td>149</td>
</tr>
<tr>
<td>Cost reductions of waste treatment through the recycling</td>
<td>136</td>
</tr>
<tr>
<td>Grand total</td>
<td>356</td>
</tr>
</tbody>
</table>

**(Reference) Grand total for previous year**: 320 million yen/year
NTN has developed a multi-repair system that reduces the failure rate (number rejected) by automatically correcting minute defects in the LCD color filter used in LCD screens of television sets and personal computers (joint development with Takano Co., Ltd.).

The size of Color filter boards used in devices such as LCD television sets is getting larger and larger and the demand for LCD television sets is growing and there is an increasing need for defect correction equipment to reduce the failure rate of LCD color filters. There are three major types of defects in LCD color filters, “black defect,” “white defect,” and “particle defect” and thus far there was no single solution to correct all defect types so it was necessary to combine the use of several types of equipment depending on the type of defect. Because of issues such as investment costs, installation area and correction time when using several different types of equipment, the appearance of equipment that could correct all types of defects was greatly anticipated.

Under these circumstances, NTN developed and commercialized a multi-repair system that can correct the three major defect types of color filters by fusing NTN’s “Ink coating technology” and “Laser cutting technology” with Takano’s “Tape polishing technology”.

We were awarded the Grand Prize in the test/repair category of the “Advanced Display of the Year Awards 2004” in recognition of this outstanding function.

Color filters are made up of four colors, R (red), G (green), B (blue) and BK (black) and each pixel of RGB is lined up regularly and the border of each color is separated with BK.

- Black defects: when BK is mixed in R, G and B pixels turning it black, or when other colors are mixed.
- White defects: when a pixel is not colored.
- Particle defects: when the colored part of the pixel sticks out of the surface or when a foreign particle is attached and sticking out.

NTN has developed a multi-repair system that reduces the failure rate (number rejected) by automatically correcting minute defects in the LCD color filter used in LCD screens of television sets and personal computers (joint development with Takano Co., Ltd.).

The size of Color filter boards used in devices such as LCD television sets is getting larger and larger and the demand for LCD television sets is growing and there is an increasing need for defect correction equipment to reduce the failure rate of LCD color filters. There are three major types of defects in LCD color filters, “black defect,” “white defect,” and “particle defect” and thus far there was no single solution to correct all defect types so it was necessary to combine the use of several types of equipment depending on the type of defect. Because of issues such as investment costs, installation area and correction time when using several different types of equipment, the appearance of equipment that could correct all types of defects was greatly anticipated.

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We were awarded the Grand Prize in the test/repair category of the “Advanced Display of the Year Awards 2004” in recognition of this outstanding function.

Example of the correction of white defect using ink coating

- Foreign particle
- Remove foreign particle with laser
- Coat coloring

NTN corporation Environmental Action Report 2005
Actively Developing Products that are Eco-friendly

Development of Environmentally Responsive Products

- **Ball screws for mechanical automatic transmission electromotive actuator**

  Improved fuel-efficiency in mechanical automatic transmission vehicles and operating performance

  We began the commercial production of ball screws for electromotive actuators for gear switching in mechanical automatic transmission installed in trucks. The electromotive types allow for a simpler structure than conventional types (air and hydraulic) and by using NTN ball screws we were able to reduce drive train loss significantly and improve the fuel-efficiency of the automobile.

  We are currently developing ball screw units for electromotive actuator of control devices surrounding the brakes and engine, and so on.

- **Lightweight compact constant velocity joint “EPTJ”**

  World’s lowest vibration and lightweight & compact

  Constant velocity joints convey the engine’s power to the wheels. Through optimal design using computer analysis, we were able to improve vibration characteristics which affect the ride quality (NVH performance) of the automobile (50% reduction in vibration value relative to conventional CVJs) and at the same time made it lightweight (8% reduction relative to conventional CVJs), and compact (4% reduction in overall size relative to conventional CVJs).

- **“Double row thrust needle roller bearing” for car air conditioning and A/T transmission**

  Attained longer life and lower torque for bearing by making the rollers double row

  In recent years, the lubrication conditions for automobile bearings have become increasingly severe and there is a greater need for bearings with longer life. Through the double alignment of rollers and the optimization of the roller shape, we have achieved longer life, lower torque, and lower noise. This contributes to resource and energy conservation.

Bearings are essentially “eco-friendly products” because they reduce friction and energy loss. At NTN, we are actively promoting the development of “Environmentally Responsive Products” that are at the top of eco-performance with compact size, low torque, high efficiency and longer life and contributing to the reduction of global environmental hazards.
“RustGuard™” Improved corrosion-resistance in bearings for steel mill machinery

Improved corrosion-resistance and realized 3.5 times longer life relative to conventional goods

NTN attained longer life for bearings used in steel mill machinery used in harsh environments — such as exposure to excessive water or scales (iron powder). We use special heat treatment and improved resistance to rolling fatigue while improving corrosion-resistance significantly by applying NTN’s proprietary manganese phosphate coating.

Wing turbine bearing

Proprietary technology incorporated into high-performance bearings

Used in the nacelle (the section where the power generator, accelerator, and brakes are stored) of wind power generators, this technology encourages the use of natural energy. Spherical roller bearings are used for the main shaft, angular contact ball bearings for reducers, cylindrical roller bearings for accelerators, and insulated bearings for power generators (MEGAMOHM® series).

New Series of Spherical Roller Bearings “S-TITÂN™”

Adapt long-life steel and optimal design to product world’s longest life and highest dynamic load rating

Spherical roller bearings are bearings with barrel shaped rollers that are self-aligning and used in various industrial machines. By adopting long-life, high-temperature steel for S-TITÂN, we were able to increase life by a factor of 30 at a temperature of 200°C and improve load carrying capability by 50% compared with conventional bearings.
Environmental Management System

Present State of ISO14001 Certifications

In 1999, NTN acquired multi-site ISO14001 certification for 11 domestic operating sites (headquarters, 5 plants and 5 affiliates) and we are working to expand this circle.

In 2004, NTN Omaezaki Works (domestic), NTN-NIDEC (ZHEJANG) CORP (China), and GUANGZHOU NTN-YULON DRIVETRAIN CO., LTD. (China) acquired certification.

For details on the location and certification of our domestic and overseas operating sites, please refer to pages 22 to 36.

Comprehensive Auditing System

At NTN Group, we have an environmental audit system so that our environmental management structure functions properly. We conduct both “reviews by external organizations” and “internal audits at operation sites” and starting from fiscal 2004 we have “cross auditing” in which operating sites audit each other.

- **ISO14001 Periodic Maintenance Evaluation**
  
  The domestic NTN Group operating sites have completed the acquisition of multi-site ISO14001 certification.
  
  At the maintenance evaluation conducted last November, NTN Omaezaki Works received its certification and was incorporated into the NTN Group multi-site certification.

- **Customers’ Environmental Auditing**
  
  We underwent environmental audits by two of our customers in fiscal 2004. NTN’s environmental management structure received high ratings and we received accreditation as a supplier.
Compliance with Legal Requirements

Compliance with Regulations and Voluntary Measures

For the “ELV directive,”*1 which targets automobiles, and the “RoHS directive,”*2 which targets electric and electronic devices, we have switched all bearing parts to those that do not contain toxic substances (starting in October 2003). For automobile CVJ s, we have proposed replacement materials (lead-free grease) to our users from March 2003 and realized complete phase out of toxic substances.

At NTN, we not only comply with legal requirements but also actively set voluntary targets and phase-outs ahead of other companies for any substance with a heavy environmental hazard or that are suspected of being toxic.

NTN employees with qualifications

At NTN, in order to deal with the legal requirements, we are promoting the acquisition of various qualifications.

(As of March 31, 2005)

<table>
<thead>
<tr>
<th>Major Qualifications</th>
<th>Number of Employees with Qualification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Management Qualifications</td>
<td></td>
</tr>
<tr>
<td>Qualified electrical energy manager</td>
<td>17</td>
</tr>
<tr>
<td>Qualified thermal energy manager</td>
<td>19</td>
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<tr>
<td>Pollution Prevention Manager</td>
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<tr>
<td>Air (categories 1–4)</td>
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<tr>
<td>Water (categories 1–4)</td>
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<tr>
<td>Noise</td>
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<td>High-pressure Gas Manufacturing and Security Manager</td>
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<tr>
<td>Refrigerating equipment categories 2, 3</td>
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<tr>
<td>Categories A and B Chemical</td>
<td>12</td>
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<tr>
<td>Category C Chemical/liquefied petroleum gas</td>
<td>76</td>
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<tr>
<td>Category C Chemical/special test items</td>
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</tr>
<tr>
<td>Category B Machinery</td>
<td>2</td>
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<tr>
<td>Chief Electrical Engineer</td>
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<tr>
<td>Categories 1, 2</td>
<td>6</td>
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<tr>
<td>Category 3</td>
<td>44</td>
</tr>
<tr>
<td>Environmental Measurement Analyzer</td>
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<tr>
<td>Working Environment Measurement Expert (Type 1, Type 2)</td>
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<tr>
<td>Manager of Specially Controlled Industrial Waste</td>
<td>23</td>
</tr>
<tr>
<td>Manager of intermediate treatment facility for industrial waste</td>
<td>5</td>
</tr>
<tr>
<td>Manager of poisonous and harmful substances</td>
<td>15</td>
</tr>
<tr>
<td>Assistant Auditor for ISO14001 Specification</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>401</td>
</tr>
</tbody>
</table>

*1 targets of the ELV directive (End of Life Vehicles): lead, mercury, cadmium, and hexavalent chromium.
*2 targets of the RoHS directive (Restriction of the use of certain Hazardous Substance in electrical and electronic equipment): the substances above + brominated flame retardants
*3 Phthalate esters: a type of organic chemical that is partially restricted by the EU directive (2003/36/EC) for suspicions raised about human toxicity.
*4 CMR substances: substances that are considered to be C (carcinogenic), M (mutagenic) or R (Toxic to Reproduction).

Newspaper article on the elimination of phthalate ester
(March 3, 2005 Nikkei Sangyo Shinbun)
Supporting Environmental Management System Certifications

At NTN, in efforts to expand our environmental management system to include our suppliers, we have asked our major suppliers to acquire Environmental Management System Certifications (ISO14001 or private certification such as Eco Stage*1) and at the same time we have provided support for these certifications through the NTN Technical Service*2. These efforts are the first of their kind in the bearing industry and about 50% of our major suppliers have acquired certification.

Through these efforts we have reconfirmed the importance of taking the first step in environmental management and the reality that it is difficult for small companies to take the first step because the cost is too high. With this in mind we approached the Eco Stage Institute and advocated the need for a simpler certification level and as a result the “Eco Stage Introductory level” that we proposed was introduced last year as a trial certification level.

In the future, by accruing cases of NTN’s support activities, it is expected that this will be approved as an official certification level. We believe that this will contribute to environmental management efforts not only at our suppliers but at small companies nationwide.

The newly-established NTN Environmental Award

Starting from the previous fiscal year, we established the “NTN Environmental Award” and awarded suppliers and operating sites that have achieved significant results from exceptional environmental activities. The suppliers that received awards were Komori Seiki Co., Ltd., which acquired ISO14001 certification in a short period of time, and three companies that received the Eco Stage Level 1 -- Koide Ironworks Co., Ltd., Goto Chemical Co., Ltd., and Matsumura Ironworks Co., Ltd.

In addition, three operating sites were presented the award including Iwata Works, which was actively involved in greening activities.

We will continue to present the NTN Environmental Award to exceptional environmental efforts in hope of raising awareness about the environment and improving the level of our environmental conservation activities.

Environmental Information-sharing Meetings with Denso Corp.

Last November, Denso Corp. (Daian Plant) and NTN (Kuwana Works) held an environmental information-sharing meeting. We shared valuable information related to the theme of energy conservation by presenting examples of our efforts onsite and introducing new equipment.

NTN presented examples of energy conservation through the use of demand control (collective management system) to conduct centralized control of air conditioning packages and the effects of the grinding swarf briquetting machine. There was a vigorous exchange of ideas and we have continued communication since then.

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*1 A consumer specification of the Eco Stage Institute (Limited Responsible Intermediate)
*2 A wholly owned subsidiary of NTN. It conducts support activities such as certification consulting as an Eco Stage certification authority.
Environmental Communication Tools

At the NTN Group, to let all of our stakeholders know our environmental activities, we conduct various press activities such as issuing an Environmental Action Report and maintaining a website. Additionally, we have a page for environmental issues in our company newsletter with the basic information we would like our employees to understand, such as the contents of the EU Directive to regulate toxic substances and our countermeasures, written in easy to understand terms so that each of our employees understands the background and importance of our environmental activities.

Environmental Education and Social Contribution

At NTN, we are committed to educating our employees and their families about the environment. By being actively involved in local beautification efforts and planting activities, we hope to raise environmental awareness in the NTN Group as a whole while at the same time contributing to the local communities.

- Created Poster to Heighten Environmental Consciousness

At NTN Transmissions Europe (France), we created a poster that presented our targets based on our environmental policy in a beautiful visual format and worked to familiarize our employees with our targets. Specifically, we listed our number targets for the reduction of electricity, gas and water use and industrial waste and declared that “the entire company will strive together to meet our targets.”

- Water Quality Conservation Activities in the Kamiina Area

The Kamiina area, where the Nagano Works is located, is rich with natural features such as the Tenryu River system, and the conservation of the river’s water quality is an important issue for the local community.

- “Monozukuri” Support Activities at Universities

At NTN, we support “Monozukuri” activities of students in university clubs related to motor sports. Not only do we provide our company’s automobile products such as bearings and constant velocity joints free of cost, but we also provide technical advice and have provided support at a total of 14 universities.

At the “2nd Student Formula SAE Competition of Japan” held in Tochigi, last August and September, 12 of those universities participated and the Shibaura Institute of Technology team (a team supported by NTN) came in fourth place.

- Iwata Works Regional Greening Activities

At Iwata Works, we are conducting greening activities such as improving the local woodlands. In fiscal 2004, 160 people, including 100 employees and their families and the local volunteer group “Green Youth Group,” took part in the planting of 450 azaleas in the woodlands near Iwata city and built and installed 6 benches made from thinned wood. Through a 3-year greening project, we were able to plant our target of 1,000 azaleas and install a total of 11 benches.

- Planting Azaleas

These river beautification efforts by the local community in the Tenryu River area were awarded the “Japan Water Award” encouragement prize in 2004 in acknowledgement of our contribution to the restoration of a healthy water cycle.

- Water Quality Conservation

Activities in the Kamiina Area

The Kamiina area, where the Nagano Works is located, is rich with natural features such as the Tenryu River system, and the conservation of the river’s water quality is an important issue for the local community.

- Tenryu River Picnic

At Nagano Works, 24 employees and their families took part in the “Tenryu River Picnic,” a riverside clean up activity supported by about 90 local companies. Additionally, we monitored the water quality of Tenryu River and cooperated 24 hours a day in the “Tenryu River Checkup,” the water quality measurement conducted around the clock as a joint effort of the community to improve the water quality.

- Nagoya Institute of Technology Racing Car

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To Coexist
— Environmental Conservation Activities —

At NTN, we aim to coexist with the global environment. We work with our communities to protect the earth’s rich natural features, blessed land, and beautiful water.
To Prevent Global Warming

Surpassed CO₂ Reduction Targets

In fiscal 2004, for the CO₂ emission rate*, we achieved 18% reduction, surpassing our target of 17% reduction (relative to fiscal 1997). However, the Kyoto Protocol was brought into effect this February, raising expectations for more voluntary efforts and we will continue to make efforts to reduce CO₂, by setting more aggressive targets (fiscal 2005 goal: 20% reduction).

Major energy conservation measures for the previous year include efficient use of electricity and exhaust heat through co-generation, use of engine compressors during summer months when the energy demand is at its peak and energy conversion from heat treatment furnaces.

**Energy Consumption (Yearly)**

<table>
<thead>
<tr>
<th>Energy Source</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>532,492,000 kWh</td>
</tr>
<tr>
<td>Petroleum</td>
<td></td>
</tr>
<tr>
<td>Heavy oil A</td>
<td>3,519 kl</td>
</tr>
<tr>
<td>Kerosene</td>
<td>4,245 kl</td>
</tr>
<tr>
<td>Gas</td>
<td></td>
</tr>
<tr>
<td>Butane/propane gas</td>
<td>7,305 t</td>
</tr>
<tr>
<td>Natural gas</td>
<td>3,217 km³</td>
</tr>
</tbody>
</table>

* CO₂ emission rate (ton/million yen) = CO₂ emission (ton) / Sales added value amount (million yen)

Major Energy Conservation Measures

- Introduction of Co-generation facilities
  
  In the past, the NTN Group has introduced co-generation facilities at four operating sites. The power generated is used onsite and by utilizing heat exhaust, we are able to reduce CO₂ emission.

- Reduced Electricity Costs through the Mebius Link System
  
  At Iwata Works, we introduced the Mebius Link System that conducts centralized control of air conditioning compressors and were able to reduce CO₂ emission from excessive cooling.
  
  This system conducts centralized control of several compressors in the building using computers. Randomly selected compressors are switched off for several minutes during a given period of time and air conditioning is switched to fan and as a result we were able to maintain a comfortable room temperature while reducing energy consumption.

- Constructed Up-to-date Energy Saving Plant
  
  NTN has completed the construction of the Mie Works as an up-to-date plant with reduced environmental hazard. At this plant, we are improving productivity through the “Monozukuri” movement and we are actively utilizing natural energy by introducing wind and solar power generation.
Reduce Waste

At NTN, we defined “zero emission” as a recycle rate of 98% or more and we have promoted efforts in waste reduction. Last year, of the ten domestic operating sites where we set zero emission as a target, we were able to realize zero emission at all the sites. However, we were not able to achieve zero emission at NTN Casting, where ISO14001 certification was acquired the previous year. We are working to improve our recycle rate by utilizing waste slag and waste sand discharged from the casting process as base course material.

Concerning the achievement of zero emission at each operating site, the effect of introducing the grinding swarf briquetting machine was especially significant and we were able to recycle grinding swarf that would otherwise have ended up in landfill treatment. This is because the swarf that was briquetted with this equipment is recycled and used as raw material (made into a valuable resource) at steel manufacturers and the recovered grinding coolants are also reused in the process. With regards to cost, we were also able to significantly reduce waste treatment costs for landfills and such.

In fiscal 2005, we will actively advance our efforts to maintain and achieve zero emission and spread our efforts to our overseas sites and suppliers.

Efforts to Prevent Air Pollution

Going forward with our plan to completely phase out halon extinguishers

At NTN, we are working to switch extinguishers to those that do not use halon, an ozone-depleting substance, by fiscal 2010. In fiscal 2004, we switched 198 units compared to our target of 175. This means we are progressing ahead of our plan.

Efforts to phase out coolants containing chlorine

At NTN, starting in fiscal 2000, we set a voluntary target to completely phase out coolants containing chlorine and have worked to meet this target. This is not an item that is legally restricted, but because there is a possibility that toxic dioxins are generated during the processing of solid residue and waste fluids, NTN has been unique in dealing with this item.

Last year, we were able to switch out three (of our target of complete phase out), and we will phase out the remaining two to complete phase out during fiscal 2005.
**Efforts to completely decontaminate ground**

Minor contamination with volatile organic compound was found at two closed NTN operating sites, and as a result of a voluntary effort to decontaminate the ground, we were able to completely decontaminate the sites last fiscal year.

The targets were old operating sites located in Kishiwada and Kawachi Nagano in Osaka and we used the Kimitsu method* to conduct a detailed investigation into the contamination and to decontaminate the ground. Before beginning our investigation and decontamination, we held a briefing session for the local residents and supervisory authorities, got their consent and worked to provide information on the decontamination process in a timely manner.

As a result, the decontamination was completed in Kishiwada in August 2004 and in Kawachi Nagano this January, and we have received formal approval of a complete decontamination from the supervisory authorities. We also released this result to the residents and got their understanding.

Concerning the discovery of minor volatile organic compound contamination during our periodic inspection of the groundwater at Kuwana Works, in compliance with the ordinance of Mie Prefecture, we held briefing sessions for the local residents’ associations and placed an announcement in the newspapers. We then conducted an investigation of the groundwater and the extent of contamination and we are now conducting decontamination by drawing water from the wells and utilizing activated carbon absorption.

In addition, as a result of conducting detailed investigation of the extent of contamination within the entire site, we discovered three locations (including the one mentioned above) with the same minor contamination. We will start decontamination work using the Kimitsu method and expect to complete decontamination by the latter part of 2006.

* This is a method in which complete decontamination can be done efficiently by pinpointing the contaminated area through detailed investigation and contamination studies and decontamination can be conducted while operating. We plan on using this method for the decontamination work at Kuwana Works.

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**Environmental Conservation Activities**

**Promotion Activities to Protect Resources**

**Reduction of packing materials**

**Reduction of the use of Styrofoam**

Last year we reached a 79% reduction (compared with our longterm target of 75%) compared to fiscal 1999.

Some of our major measures include the use of alternative materials such as “Oka Pack” which is made out of soy pomace and recycling/reusing Styrofoam.

**Trends in Amount of Styrofoam used**

Figures in parentheses indicate percentages of the basic figure, 100, in 1999.
Reduction in cardboard box usage

We achieved a 20% reduction compared to our target of an 18% reduction in the amount of cardboard boxes used relative to fiscal 1998. Some of our major measures are the promotion of the use of “reusable containers” with customers and reduction of the weight of cardboard boxes. In fiscal 2005, we will continue to work to reduce our consumption of cardboard boxes.

Reduced paper consumption

As a result of conservation measures such as using both sides of photocopy paper, aspiring to a “paperless office” by using computers, and reducing the amount printed, we achieved a 23% reduction compared to our target of 20% reduction in paper consumption compared to fiscal 1998.

Activities to Reduce Environmental Impact of Transportation

New Export Distribution Center

Aiming for environmental hazard reduction and streamlined logistics

The new “Export Distribution Center” that was completed in Kuwana, Mie in May 2005, takes advantage of its convenient location near the Port of Nagoya, the shipping port, and production plants to streamline logistics for our company as a whole. NTN has improved logistics efficiency by 22% on a ton-kilometer base (t-km) for domestic shipments.

Additionally, in order to reduce environmental hazards, we installed an output 10kW vertical axis wind power generator (SVAT Wing Turbine) at the plant site and use it to power the lighting within the center. We also adopted low power consumption light-emitting diodes for our company sign on the exterior wall to conserve energy.

* Weight of shipped load (t) times the shipping distance (km)
Constructing the NTN R&D Center to strengthen the development of eco-friendly products

“Creating Value”
NTN is currently implementing the medium term business plan “Rapid Advance 21” as a priority measure and conducting reforms to “create value” under the concept “design determines everything.”

The NTN R&D Center that was completed September 2005 in the Iwata area, will support rapidly developing technical innovations worldwide, respond to borderless markets and will serve as the “mother center” for the global supply of new products and technologies. Overseas, in addition to our America Technical Center in the North American area, in 2005 we will reorganize our technology base in Europe and in 2006 we plan on constructing a technical center in the China Changzhou area. Once these centers are completed at the end of fiscal 2006, we will have established our research and technology system at four points worldwide including China.

Development of Next Generation Environmental Energy Products
At this center, not only do we conduct technological development for existing operations, we will strengthen the development of new products in the cutting-edge fields of next-generation automobiles, environmental energy, medical care and robotics. We have reinforced our specialty division for the purpose of applied research in electronics and we will develop new products which have substantial market potential or a major technological application potential in cutting-edge areas such as next-generation automobiles, environment, and welfare.

“A Place to Experiment using Environmental Design”
Concerning the facilities and design of the building, we considered it an opportunity to experiment with environmental devices such as seismic isolation, natural energy and eco-air conditioning. The building is environmentally friendly with rooftop greening, the green procurement of the equipment used, and the introduction of NTN environmental equipment. Additionally, it has a seismic isolated design using seismic isolation equipment developed by NTN to provide against an earthquake like the Great Hanshin Earthquake and has crisis management functions so that it can operate as a disaster control center for the Iwata area operation site (refer to picture and diagram below).

Illustration of NTN R&D Center

NTN R&D Center
(1) Location: Inside the NTN Iwata Works
(1578 Higashi Kaizuka, Iwata Cty, Shizuoka Prefecture)
(2) Total floor area: Aggregate floor space for 5 floors = 16,800m²
(3) Structure: The building will be built on a seismically isolated structure using the “support system with sliding type seismic isolator” manufactured by NTN Engineering Plastics Corp.
(4) Facilities: In-house power generation, well water supply systems and other emergency response equipment designed for use during accidents and natural disasters. Roof greening, Eco-friendly air conditioning
(5) Total construction costs: Approx. ¥3 billion
Environmental Conservation Efforts at NTN Operating Sites

Every operating site of the NTN Group, including those overseas, is committed to actively preventing global warming while reducing environmental impact through waste reduction, recycling, and reuse. NTN operating sites are seeking to eliminate environmental pollution by satisfying not only legally regulated standards but also our more stringent voluntary internal standards for substances of environmental concern.

In addition, NTN takes part in community activities, cooperating with local residents’ efforts to preserve the environment.
### Certified Operating Sites

<table>
<thead>
<tr>
<th>Area</th>
<th>Operating Site</th>
<th>Year/Month Obtained</th>
<th>Registration Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>Obtained collectively through the multi-site method</td>
<td>1999 11</td>
<td>JSAE176 JSA</td>
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<tr>
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<td>LRQA</td>
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<td>Schiller Park Plant</td>
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<td>NTN-BOWER Corporation Macomb Plant</td>
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<td>NTN Driveshaft, Inc.</td>
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<td>Thailand</td>
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<td>GUANGZHOU NTN-YULON DRIVETRAIN CO., LTD.</td>
<td>2005 4</td>
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### Operating Sites expected to be certified.

<table>
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<th>Area</th>
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</thead>
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<td>China</td>
<td>SHANGHAI NTN CORP.</td>
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<td></td>
<td>CHANGZHOU NTN-GUANGYANG CORP.</td>
<td>2006 9</td>
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</table>

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**Map Legend:**
- **To be obtained**
- **Obtained**
Environmental Conservation Efforts at NTN Domestic Operating Sites

### Kuwana Works

**2454 Tsuchijima, Higashikata, Kuwana, Mie**  
Operation started: 1918  Site area: 177,935m²  
Main products: Ball bearings, cylindrical roller bearings, constant velocity joints, steel balls

#### Actively Promoting Energy Conservation and Waste Reduction

In fiscal 2004, we introduced four grinding swarf briquetting machines in order to increase swarf recycling and coolant reuse.

Additionally, we renovated two compressors into high-efficiency turbo types to improve energy conservation, and at the same time, we switched the heat source for our heat treating furnace from electricity to city gas as an effort to reduce CO₂ and cost.

We received an award from the Mie Prefecture Industrial Waste Association in recognition of our active efforts towards waste treatment that span over 10 years.

### Iwata Works

**1578 Higashikaizuka, Iwata, Shizuoka**  
Operation started: 1960  Site area: 226,860m²  
Main products: Constant velocity joints, needle roller bearings, ball bearings, and various precision equipment

#### Green Activities to Create Woodlands

We are actively promoting the recovery of exhaust heat from the co-generation process for use in heating rinse water used in the forging process.

In addition, in an aim to coexist with the local community, we actively participate in local greening activities. The woodland improvement campaign, conducted by Green volunteers, is one of them. Our employees and their families participated in planting azaleas in the woodlands near our plant, made benches out of thinned wood and paved areas near the arbor using old grinding stones.
Okayama Works

Created New Tapered Roller Bearing Plant; Next Generation Equipment with Improved Productivity in Operation

At the new tapered roller bearing plant, in an effort to balance the reduction of environmental hazards and productivity, we introduced next generation equipment with increased workability and production efficiency while at the same time realizing energy conservation while taking up less space to produce axle bearings for automobiles.

Additionally, we have taken measures to green the grounds such as planting pressure resistant grass on our plant’s west parking lot.

Takarazuka Works

Contribute to Society by Joining and Supporting Local Activities

We have created community-conscious voluntary standards for noise and vibration that go beyond the legal standards and promoted the recycling of resources through separating waste streams within the workplace.

In an effort to coexist with our local community, we have opened our company playing fields to our local sports groups (Takarazuka Little League, rugby team) and supported youth activities. We have also created environmental activities with the residents of our community, taking part in activities such as clean up volunteers for the “Mukogawa Riverside Park Beautification Committee.”
Environmental Conservation Activities

Nagano Works

Confirmed Energy Conservation Effect through the Application of Heat Shielding Paint

Last summer, we conducted the trial application of heat shielding paint that reflects 70% to 80% of the solar rays on part of the roof of our miniature bearing plant. As a result, we were able to confirm a 30°C drop in the surface temperature of the roof in the summer. We will continue to apply this paint to our roofs as an effective measure to reduce energy consumption in the summertime.

In addition, our employees and their families took part in the 12th annual Tenryu River Picnic, with the proposal of “Let’s make Tenryu River safe for swimming and create a recycling society,” and helped clean up the river bank.

NTN Kongo Corporation

Significant Impact through the Introduction of Grinding swarf briquetting machine

We introduced two “grinding swarf briquetting machines” to the two plants that have started full-scale operation in fiscal 2004. As a result, the waste treatment cost for the entire works was cut in half compared with the previous year. Additionally, through the collection of oil based grinding fluids, we were able to double our cost savings compared to the previous year.

At the same time, we are dedicated to the beautification of the surrounding areas and conduct clean up activities four times a year.
Emphasis on Environmental Education

At NTN Engineering Plastics, we emphasize environmental education. In order to promote the recycling and reuse of waste plastics, we provide a place for education at the waste storage location, have programs to educate our employees on the proper way to separate waste and work to motivate our employees.

In addition, we conducted emergency training, “specifically reenacting an accident where waste alkaline fluids have leaked from the ammonia treatment equipment to the gutters.”

Waste separation program  Emergency response training

Conduct Periodic Emergency Response Training

We conducted emergency response training for liquid ammonium, which can have a grave effect on the environment in the event of a disaster. In continuation of our efforts in the previous fiscal year, we promoted energy conservation efforts with electricity and gas, demand control for air conditioning, and the recycling of component waste materials.

Additionally, we are actively involved in greening activities in our community.
Environmental Conservation Activities

Recycling of Used Oils

To efficiently use resources, we are reducing the amount of oil used. By putting oils through distillation renewal equipment, we have obtained the same quality as new oil. This has also been effective in reducing costs and we plan on expanding its application.

As part of our contribution to society, our employees and their families took part in the “River and Ocean Clean Up Mission” sponsored by the local government and helped clean up the seaside.

Main products: Needle roller bearings for rocker arms, torque diodes, various clutches, spherical rings for constant velocity joints, PTJ roller cassettes, plastic molding

Created an environment in line with the demand characteristics of waste slag.

We promoted the recycling of waste slag and waste sand created during casting as foundation for roads. There is a large fluctuation in demand, therefore we have created a temporary storage space exclusively for March 2005 and have created an environment for recycling.

Additionally, we installed an air dryer in the compressor in an effort to make more efficient use of air.
Introduction of Compressors with Inverters to Conserve Electricity

As one of our energy conservation measures, we introduced compressors with inverters. As a result, we were able to reduce our electricity usage by about 20% and we were also able to reduce noise during operation.

In addition, in cooperation with neighboring companies, we are actively involved in local beautification activities.

Acquired ISO14001 and Incorporated Multi-Site Certification

Last November, we received ISO14001 certification and were incorporated in the NTN multi-site certification. We worked to educate all employees about the environment and to raise awareness by conducting activities such as distributing “Environmental Action Guideline” cards to all new employees and having them repeat it in chorus.

Additionally, in order to protect the rich natural environment of our site location, we pay particular attention to the sewage treatment discharged from our plant.
Environmental Conservation Activities

Head Office

1-3-17 Kyomachibori, Nishi-ku, Osaka
Operation started: 1918  Site area: 969m²

Participated in “Clean Osaka 2004”

Through the environmental activities of the Office Environment Action Committee, we have promoted resource and energy conservation activities in the office. For example, we have set targets for the reduction of electricity, gasoline, paper and general waste and worked to meet these targets. Also, by using an ice storage air conditioning system, we are reducing daytime power consumption.

In addition, we took part in Osaka’s environmental event, “Clean Osaka 2004,” and helped clean up the local parks.
Environmental Conservation Efforts at NTN Overseas Operating Sites

Environmental Conservation Activities

Reusing Crates
(large size cardboard boxes)

We worked on recycling activities such as using incoming crates used to ship parts from Japan to ship out completed products and recovering waste materials.

We also worked to conserve energy by eliminating thermal drying after assembly, and switching the fluorescent lighting in the workplace to an energy saving type.

Donated Hickory Seedlings

We have been cooperating with the charity operation called "Food Drive" since 2001. Food donated by our employees have been distributed to people facing danger such as victims of domestic violence and homeless people through a local organization.

In addition, we donated hickory seedlings to Elgin and our employees planted them in our local parks on Earth Day held this April.

Overseas Operating Sites

American NTN Bearing Manufacturing Corporation, Elgin Plant

1500 Holmes Road, Elgin, Illinois 60123-1206, U.S.A.
Operation started: 1975 Site area: 137,000m²
Main products: Hub bearings, angular units, steel balls
ISO14001 Certification: June 2000

American NTN Bearing Manufacturing Corporation, Schiller Park Plant

9515 Winona Avenue, Schiller Park, Illinois 60176-1024, U.S.A.
Operation started: 1971 Site area: 9,713m²
Main products: Radial ball bearings
ISO14001 Certification: September 2000
Environmental Conservation Activities

NTN-Bower Corporation, Macomb Plant

Reduced Electric and Gas Consumption Costs

We enhanced energy conservation by periodically adjusting the gas burners in the heat-treating furnaces and boilers to improve combustion efficiency and changed the burners in the rotary hearth furnaces to high efficiency burners.

Additionally, we installed radiant heating in our plant. Through effective heating, we were able to cut our natural gas consumption costs by about $9,000 dollars compared to the previous fiscal year.

NTN-Bower Corporation, Hamilton Plant

Significant Reduction in Consumption of Oil

We are actively promoting oil recycling; and in 2004, we recycled a total of 30,800 gallons of quenching oil and other hydraulic oils.

In the future, we will continue to work to conserve energy by reducing the gas consumption in carburizing furnaces and introducing high efficiency motors.

Used hydraulic oil recovery

Radient heaters installed above the work area
Significantly Reduced Solid Waste Materials

By improving the recycle rate of cardboard boxes and wood palettes, we reduced the amount of solid waste material that is sent to landfills by 31%.

Additionally, last November, we received the 2004 Governor’s Award for the State of Indiana to commend our outstanding environmental efforts. This recognized our continuous (5 year) improvement in environmental management and is our second award in this category.

Promote Energy Conservation by Switching to New Type Compressor

We are promoting energy conservation by switching several of the existing piston type air compressors to two modern scroll compressors.

NTN Driveshaft, Inc.
8251 South International Drive, Columbus, Indiana 47201, U.S.A.
Operation started: 1991 Site area: 485,623m²
Main products: Constant velocity joints
ISO14001 Certification: December 1999

NTN-BCA Corporation, Lititz Plant
401 West Lincoln Avenue, Lititz, Pennsylvania 17543-7020, U.S.A.
Operation started: 1997 Site area: 24,919m²
Main products: Radial ball bearings, needle roller bearings, rocker arm bearings, EM couplings
ISO14001 Certification: July 2000

Promote recycling activities
2004 Indiana Governor's Award

Modernized scroll compressor
Environmental Conservation Activities

**NTN Kugellagerfabrik (Deutschland) GmbH, Mettmann Plant**

**Donated alders to the Mettmann community**

At the 1100th anniversary of the first official record of the town of Mettmann in 2004, citizens and companies donated 1100 trees to be planted in the area. Our plant participated by donating 7 alders and a bench.

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**NTN Bearing Corporation of Canada, Canada Plant**

**Introduced compressor waste heat recovery heating system**

We constructed a new building for the production of angular unit bearings. In doing so, we introduced a compressor waste heat recovery heating system and were able to reduce 20,000 CAN$/year on gas fuel costs and reduce CO₂.

Additionally, by utilizing the grinding swarf briquetting machine we are working towards the efficient usage of resources and zero emission.

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**Compressor waste heat recovery heating system**

**Grinding swarf briquetting machine**

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**Compressor waste heat recovery heating system**

**Grinding swarf briquetting machine**
## NTN Transmissions Europe

**Significant results Environmental management**

We shortened the length of time the shutters to the forklift exit are opened to prevent heat from leaking out of the plant and drastically reduced gas consumption.

In addition, we installed an oil/water separator to renew and reuse used cleansing water and as a result achieved zero emission to the natural world.

<table>
<thead>
<tr>
<th>Automatic shutter</th>
<th>Oily water separator</th>
</tr>
</thead>
</table>

## NTN Manufacturing Thailand

**Utilize natural light to reduce daytime lighting usage**

We have adopted a skylight (clear roof material) for the roof of our new plant and were able to reduce daytime lighting usage by letting in natural light.

Additionally, we installed wastewater treatment equipment for the surface treatment of wastewater that is in line with Thailand’s domestic law.

<table>
<thead>
<tr>
<th>Skylights</th>
<th>Wastewater treatment equipment</th>
</tr>
</thead>
</table>

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**Z.A. des Tremelieres Communaute Urbaine du Mans 72704 Allonnes Cedex, France**

- Operation started: 2000
- Site area: 456,000m²
- Main products: Constant velocity joints
- ISO14001 Certification: January 2003

**111/2 Moo 4, Tambol Pluakdaeng, Amphur Pluakdaeng, Rayong 21140, Thailand**

- Operation started: 1999
- Site area: 114,846m²
- Main products: Constant velocity joints, hub bearings, needle roller bearings, autotensioners, timing belt pulley, needle rollers for rocker arms, electromagnetic clutch bearings, hydrodynamic BEARPHITE, shaft, housing
- ISO14001 Certification: August 2003
**Environmental Conservation Activities**

**Guangzhou NTN-Yulon Drivetrain Co., Ltd.**

- **Address:** No.11 Jun Da Road, East Dong-Peng Avenue, East District of Guangzhou Economic and Technological Development Zone, Guangzhou, Guangdong Province, China
- **Operation started:** 2003
- **Site area:** 52,821 m²
- **Main products:** Constant velocity joints
- **ISO14001 Certification:** April 2005

**Environmental Education for Employees**

We launched the ISO14001 Certification Preparation team last August and built up our Environmental Management structure and successfully received certification this April.

We are actively involved in the environmental education of employees, and make efforts to sort garbage and effectively use resources.

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**NTN-Nidec (Zhejiang) Corp.**

- **Address:** Pinghu Economic-Development Zone, Pinghu City, Zhejiang Province, China
- **Operation started:** 2003
- **Site area:** 43,000 m²
- **Main products:** Hydrodynamic bearing units
- **ISO14001 Certification:** January 2005

**Acquired ISO14001 Certification in January 2005**

We set up a preparation team for the ISO14001 certification last August and began preparing for the acquisition of the certificate. Additionally, selected staff members from each department took part in internal auditor training and received qualification. After sufficient preparations of our environmental management system in September, we received ISO14001 environmental management system certification in January of this year.

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**Overseas Operating Sites**

**Guangzhou NTN-Yulon Drivetrain Co., Ltd.**

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Results of the NTN Environmental Action Report
2004 Questionnaire

NTN conducted this survey in order to hear everyone’s opinions through the Environmental Action Report. We would like to thank everyone who cooperated in this survey and present the following results.

1. Impressions

- Valuable 9%
- Quite valuable 91%

2. How the readers’ felt about the NTN Group’s approach to environmental issues

- Well done 23%
- Very well done 77%

3. Contents that interested the readers (Multiple answers allowed)

- NTN Environmental Policy
- Environmental Conservation Promotion System, history of activities
- Results of Fiscal 2003
- Environmental targets for Fiscal 2004
- Material Flow Cost Accounting, Environmental Accounting
- Expansion of the Environmental Management System
- Environmental Conservation Activities (Reducing Global Warming)
- Environmental Conservation Activities (Reducing waste materials)
- Environmental Conservation Activities (Reducing air and water pollution)
- Environmental Conservation Activities (Reducing packing materials)
- Environmental Conservation Activities (Recovery and Recycling)
- Environmental Conservation Activities (Conservation measures related to shipping, LCA)
- Eco-Friendly Products
- Compliance with Legal Requirements, Environmental Audits
- Environmental Education, Communication
- All Departments’ Approaches to Environmental Issues

4. A sampling of the comments

- Well organized and easy for an outside party to understand.
- Can see you are returning to your main line of business, EMS.
- It covers all aspects of Environmental issues.
- I give you credit for your high recycle rate.
- I believe it would be clearer if illustrations were used to show how the major waste materials are being reused with regards to zero emission.
- I would like to know more about your activities within the local communities.
- Why don’t you open your seminars and training to companies, organizations, and schools in the local communities?
- Please tell us about your activities with regards to Green Procurement activities.

Target Locations of this Report

- Kuwana Works
- Iwata Works
- Okayama Works
- Takarazuka Works
- Nagano Works
- NTN Kongo Corporation
- NTN Engineering Plastics Corporation
- NTN Powder Metal Corporation

- NTN Mikumo Co., Ltd.
- NTN Casting Corp.
- Hikari Seiki Industry Co., Ltd.
- NTN Omaezaki Corporation
- NTN Mie Corporation
- Head Office

American NTN Bearing Manufacturing Corporation, Elgin Plant
American NTN Bearing Manufacturing Corporation, Schiller Park Plant
NTN-Bower Corporation, Macomb Plant
NTN-Bower Corporation, Hamilton Plant
NTN Driveshaft, Inc.
NTN-BCA Corporation, Litzb Plant
NTN Bearing Corporation of Canada, Canada Plant
NTN Kugellagerfabrik (Deutschland) GmbH, Mettman Plant
NTN Transmissions Europe
NTN Manufacturing Thailand
NTN-NIDEC (ZHE JIANG) CORP.
GUANGZHOU NTN-YULON DRIVETRAIN CO., LTD.

* This report is based on all operating sites that produce NTN-brand products.

Period of the Report
April 2004 to March 2005 (with some exceptions)