

CSR Report 2008

Corporate Social Responsibility Report

NTN Corporation

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Editorial Policy

NTN started issuing annual "Environmental Action Reports" in fiscal 1999.

In fiscal 2006, the name of this report was changed to "CSR Report" and the report was expanded to include the social and economic aspects of our activities so that our readers can better understand how we work to be a socially responsible corporation.

In the "Feature Article" sections of this year's report, we have three examples of the role of tribology in creating products that contribute to society and a description of what we are focusing on in "Efforts to Prevent Global Warming." "Globalizing our Business and Localizing our Operations" has examples of our social contribution activities in Thailand. We believe that these issues are particularly important to both our stakeholders and to the entire NTN Group itself.

The "Social Aspects" section has a separate chapter for individual stakeholders in which we report on our important efforts to fulfill our responsibilities toward the stakeholders.

The "Environmental Aspects" section describes our important efforts and our progress as we work toward achieving our environmental targets for fiscal 2010.

In addition, our home page contains each operating site's CSR efforts, their social contribution activities, as well as environmental performance data.

We would appreciate it if you could let us know what you think using the attached questionnaire.

• Reporting period:

Fiscal 2007 (from April 1, 2007 to March 31, 2008) (Some of the information in this report dates from before or after fiscal 2007.)

- Organizations Included in Report: NTN Corporation and its primary group companies
- Expected date of issue for next report: End of June 2009
- Guidelines used for Reference:

"Ministry of the Environment – Environmental Reporting Guideline (2003 edition)" and "Environmental Reporting Guideline (2007 edition)" GRI "Sustainability Reporting Guidelines 2002" and GRI "G3 Guidelines"

Future Projections

"This report describes not only current and past facts, but also the future outlook and plans of NTN Corporation and its group companies (NTN Group). The future outlook or plans are assumptions or estimates based on informatior available at the time this report was prepared, and include uncertainty. Actual results of business activities or events occurring in the future may differ from the future outlook or plans described in this report.

NTN shall not be liable for such results and asks for your understanding in this regard."

Working to keep the earth green forever

"NTN Blue" is "Ecology Blue"

NTN's products are found in machines with rotation and torque. They are eco-friendly products that reduce losses in the transmission of energy.

Corporate Data

Corporate Name: NTN Corporation Brand Name: NTN

Date founded: March 1918

Head Office:

1-3-17 Kyomachibori, Nishi-ku, Osaka, Japan 550-0003

Representatives: Yasunobu Suzuki, Chairman and CEO Tatsuo Kondo, President

Number of Employees:

5,400 (stand-alone), 18,960 (consolidated)

Fiscal term: March 31st Capital: ¥42.3 billion (as of March 31, 2008)

Net Sales:

¥359.9 billion (stand-alone), ¥534 billion (consolidated) (as of March 31, 2008)

Stock listing: The first sections of the Tokyo Stock Exchange and the Osaka Securities Exchange

Description of Business:

Manufacture and sales of bearings, constant velocity joints, precision equipment, and other products Number of Subsidiaries: Japan: 20; Overseas: 29

List of Primary NTN Group Companies

Japan:

Japan: NTN Kongo Corporation / NTN Engineering Plastics Corporation / NTN Powder Metal Corporation / NTN Mikumo Co., Ltd. / NTN Mie Corporation / NTN Omaezaki Corporation / NTN Casting Corporation / NTN Kinan Corporation / NTN Kamiina Corporation / NTN Fukuroi Corporation / Hikari Seiki Industry Co., Ltd. / NTN Bizen Corporation / NTN Hakui Corporation / NTN Engine Corpora

NTN Tado Corporation / NTN Bearing Service Co., Ltd. / Kyoei NTN Co., Ltd. Asia:

Asia: NTN MANUFACTURING (THAILAND) CO., LTD. / NTN-NIDEC (THAILAND) CO., LTD. / NTN (China) Investment Corporation / Shanghai NTN Corporation / NTN-NIDEC (Zhejiang) Corporation / Guangzhou NTN-Yulon Drivetrain Co., Ltd. / NTN-RAB (Changzhou) Co., Ltd. / NTN Manufacturing India Private LTD. / NTN BEARING-SINGAPORE (PTE) LTD. / NTN CHINA LTD. / NTN BEARING-THAILAND CO., LTD. / NTN BEARING-MALAYSIA SDN.BHD. / NTN KOREA CO., LTD.

The Americas:

NTN USA CORP. / NTN BEARING CORP. OF AMERICA / AMERICAN NTN BEARING MFG. CORP. / NTN-BOWER CORP. / NTN DRIVESHAFT, INC. / NTN-BCA CORP. / NTN BEARING CORP. OF CANADA LTD. / NTK PRECISION AXLE CORP. / NTN-SUDAMERICANA, S. A.

Europe:

NTN Wälzlager (Europa) G.m.b.H. / NTN Kugellagerfabrik (Deutschland) G.m.b.H. / NTN TRANSMISSIONS EUROPE / NTN BEARINGS (UK) LTD. / NTN FRANCE / S.N.R. ROULEMENTS





Reducing energy losses and preserving the environment through tribology

Tribology is the study of interacting surfaces. It can be used to help control friction, wear, and lubrication to make sure things move smoothly.

Bearings are parts with smoothly moving surfaces that reduce friction and reduce energy consumption, which truly makes them eco-friendly products.

NTN technology is used in numerous industries to realize an ideal level of smooth motion.

Wind power generation

Wind power is a clean form of energy without CO₂ emissions. In order to achieve harmony with the natural environment and to help solve the global warming problem, we are contributing to the spread of wind power generation by providing bearings for wind power generators.

PCs and hard disks

Our fluid dynamic bearings are used in the hard disk drives (HDDs) integrated in products such as PCs and hard disk recorders – products that have become integral parts of everyday life. The bearing itself contains lubricating oil and has excellent

running accuracy and minimal noise, making it a preferred choice for HDD motor bearings.



Fluid dynamic bearing

000 000

Bearing for railroad journal applications

Cylindrical roller bearing

Railcars

NTN bearings are used in a large number of passenger and freight cars in Japan including the Shinkansen (the bullet train), as well as in railcars outside of Japan.

Rail transport is getting a new look worldwide as an environmentalfriendly mode of transportation from the standpoint of preventing global warming and demand for railcar bearings is on the increase.

In order to ensure the safety of large numbers of people and large quantities of cargo transported by railcars, NTN uses a special management system to maintain and improve quality.



Spherical roller bearing for machine main shaft Insulated

bearing for

generators









Automobiles

NTN products are used widely in critical automotive applications – from the engine and transmission to the drivetrain and electronic devices.

In recent years, the automotive industry has been striving to improve the safety and environmental performance of vehicles to make them better for people and better for the earth.

To meet these needs, NTN has been developing our technology to enhance function, to improve precision, to reduce weight, and to devise new processing technologies, as well as to find ways to fuse these together into composite technologies.

Office equipment

NTN supplies small bearings and plastic products to office equipment manufacturers.

This industry started environmental preservation efforts early, and NTN has been responding to their needs by eliminating and reducing environmentally hazardous materials by enacting internal standards.

We will continue to create environmentally friendly products.

Hub bearing with a high-resolution rotational sensor

> V-series hub joint

Industrial machinery (e.g. construction machinery)

Our bearings are highly regarded for their high quality and for NTN's ability to respond flexibly to increases in demand. They are used in a wide variety of areas including construction machines, which are critical from the standpoint of infrastructure maintenance, mining machines, and industrial robots, which require a high degree of precision and speed. They are also used in machine tools and medical devices. Angular contact ball bearing for machine tool spindles

> Thin-section radial ball bearing

> > Bearing with high-resolution rotational sensor



Transforming ourselves into a company that can be relied upon to excel

Working to create growth through creativity and achievements with CSR as a core element of management

NTN implemented a new medium-term business plan, "Growth through Creativity and Achievements 21" in fiscal 2007.

"Growth through Creativity and Achievements" means creating new Enterprise Value through continued growth and realizing significant achievements.

"Growth through Creativity and Achievements 21"

aims to improve the efficiency of our assets by seeking faster returns on past investments as well as to use additional investment to achieve the continuous growth of our business. Creating value is a critical issue for us.

NTN regards CSR (corporate social responsibility) as a "core element of management." With "Growth through Creativity and Achievements 21," we will work to increase value for all of our stakeholders including customers, shareholders, suppliers, employees, and local communities.

In fiscal 2007, we placed a special emphasis on corporate ethics and regulatory compliance, and we focused on these themes in our educational programs. At the same time, through efforts such as interacting with local communities and preserving the environment, we were able to get together with our stakeholders and increase our dialogue in order to fulfill our social responsibilities as a reliable corporate citizen.

In addition to creating an internal control system, we set out a "Risk Management Policy" to thoroughly define preventive measures and crisis countermeasures so that we can mitigate the various risks to the survival of our business. We also established a risk management committee to strengthen our risk management.

Responding to the expectations of all stakeholders including customers, shareholders, suppliers, employees, and local communities

NTN regards the trust of all stakeholders – such as customers, shareholders, suppliers, employees, and local communities – as a key source of our Enterprise Value and we will work to meet all of their expectations.

Customers: To provide top-quality products in a timely manner every time, we work hard to get an accurate understanding of our customers' needs, to offer new, value-added products that are ahead of the curve, and to improve customer satisfaction.

Shareholders: Through proactive investor relations, we explain our business strategy and our investments and decisions, which are based on our Corporate Philosophy to further maintain and develop our business.

Suppliers: We work to strengthen strategic partnerships, to develop quality control systems based on supply-chain management, and to carry out green procurement that is environmentally friendly.

We will develop our people in conjunction with our suppliers to further improve our skill level – our motto in this respect is "coexistence".

Employees: Based on the belief that "MONOZUKURI (manufacturing) means HITOZUKURI (developing the individual)," we constantly carry out practical, worksite-based HITOZUKURI measures to ensure that engineering and technical skills are passed down.

In addition to maintaining a safe and pleasant work environment, we operate a "Dream Workshop" that helps handicapped workers achieve independence and we are engaged in creating systems and arrangements in which women can take an active part.

Local communities: We are strengthening our relationships with local residents both in Japan and overseas by promoting greening activities around operating sites, by working to beautify environments, and by promoting social contribution activities such as art, culture, and sporting events.



A company that can be relied upon to excel

Working to create the ultimate environment-friendly bearing – one made with light and wind

The entire NTN group is working to solve environmental problems.

Bearings and constant velocity joints are eco-friendly products that reduce friction and energy consumption.

In our R&D, we are working to eliminate the use of substances of environmental concern and to develop bearings that use biodegradable materials that return to nature and are better for both people and the environment.

In terms of manufacturing, we have introduced solar panels and wind power generators to effectively use natural energy and we are developing compact oil-free equipment, but our ideal bearing is made with light and wind.

We have greatly reduced the amount of waste by using the grinding swarf briquetting machine that we developed. We contribute to creating a recycling society by providing this machine to other industries and companies.

Also, to support the establishment of environmental management systems, we assist suppliers to become certified in "EcoStage" (a private environmental certification), which is a preliminary step toward ISO14001 certification. Our environmental efforts also include distributing a Household Eco-Account Book to our employees so that they can increase awareness and energy conservation at home.

Going back to basics in MONOZUKURI to further improve customer satisfaction

Recently, there has been a spate of corporate scandals involving product recalls and fake products. Society as a whole is looking at corporations and what we do with more intensity than ever before.

NTN believes that quality is the most important issue when it comes to increasing Enterprise Value, and we work to create products that meet and exceed the expectations of our customers. Our Design, Manufacturing, and Sales Departments believe, respectively, that design determines everything, that quality must be built in, and that customer needs have to be understood right away. All three departments act accordingly to further improve customer satisfaction.

Also, we have instituted the NTN Meister system and other HITOZUKURI measures at our production worksites in order to pass on engineering and technical skills to the next generation. They have worked to comprehensively strengthen our MONOZUKURI capacity in terms of our quality control and equipment R&D capabilities. In addition to these efforts, we have put in "hazard experience corners" at our primary operating sites to raise employees' safety awareness through experiencing and recognizing hazards hiding in equipment and work.

Working to create growth through creativity and achievements with a vision of the universe

Realizing growth through creativity and achievements includes "going beyond earthbound thinking and looking at our earth as an island in space".

This vision is related to the idea that "employees cannot be stuck in a rut with the way they do things and see things," which is one point in "Growth through Creativity and Achievements 21."

By having each employee think for themselves to produce results and grow, we are providing increased value for all stakeholders.

We hope for continued understanding and support from all stakeholders.

June 2008



Jatom Kondo

Yasunobu Suzuki Chairman and CEO

Tatsuo Kondo President





Improving Vehicle Performance through Tribology

Super-sealed, low-torque hub bearings: Lower fuel consumption achieved with a 15% decrease in frictional resistance

In recent years, automotive development has been spurred on by an increased demand for higher fuel economy. Bearings, which have always been used to limit rotational friction, need to have less torque than ever before (low rotational resistance).

Over 100 bearings are used in a single automobile; reducing the torque of the hub bearings supporting the vehicle wheels is particularly effective for increasing fuel economy. To satisfy this demand, NTN developed the super-sealed, low-torque hub bearing.

Approximately half of the rotational resistance of a hub bearing occurs in the seal that seals off the gap between the inner and outer rings. Also, conventional wisdom held that reducing the sliding resistance of the seal reduced its performance, allowing the entry of foreign matter, such as muddy water.

To solve this problem, NTN created a "low-friction rubber" formulated for optimum elasticity as a seal material, and used this material in the new product. The radial lip, which comes in contact with the inner ring in conventional bearings, was changed so that it does not make contact, allowing the torque during operation in the new product to be reduced by 15%.

In addition, increasing the number of side lips to two has halved the entry of muddy water, increasing the durability of the bearing.

ub Bearings with high-resolution rotational sensors: Significant improvement in ABS performance

Automobile safety performance is more important than ever.

Anti-lock Brake System (ABS) improves braking by measuring the speed of the automobile and the rotational speed of the wheels to control the brakes so that the wheels don't lock up during sudden braking. Improved ABS performance is also being sought after.

Our company has been ahead of the curve since the 1990s, when we started the development of hub bearings with an internal sensor for measuring the rotational speed of automobile wheels. In 2007, we entered into

Hub bearings with low friction and an integrated high-resolution rotational sensor make vehicles that are more fuel-efficient, safe, and environmentally friendly

NTN hub bearings, which contribute to lower fuel consumption and safety, hold a leading share of the world market.

"V-series hub joint", reducing weight in terms of integration of constant velocity joint" and hub bearing.

Structure of super-sealed, low-torque hub bearings





High-sealing, low-torque hub bearing

a business tie-up with the French bearing manufacturer SNR and developed a hub bearing with a high-resolution rotational sensor.

The rotational speed of the wheels is measured using magnetic encoders that are mounted with alternating polarity at evenly spaced intervals around the rotating ring of the bearing. A magnetic sensor detects the magnetic field of these encoders. This sensor was developed by SNR, a world-class sensor company, and has more than 40 times the resolution of conventional sensors.

By combining these delicate parts with NTN's sealing technology to protect them from harsh external environments, it is possible to rapidly predict unsteady behavior that occurs from differences in the rotational speed of the wheels on each side of the vehicle, thereby significantly improving the ability of vehicles to avoid hazards. Also, this product allows subtle movements of the vehicle to be detected, so it is expected to be used in applications such as automatic driving.

C ontributing to the ease of automobile assembly

Ease of assembly is also important in vehicles. NTN has been working on **integrated hub bearing units** (integrated multiple components) for a long time.

Until the 1970's, bearings for supporting axles in vehicles were typically made up of two parts aligned. At the time, we created the first-generation integrated bearing that combined the two bearings into one unit. Next, we created the second-generation unit that combined the wheel mounting flange or the vehicle mounting flange. In the early 1980's, we created and started mass production of the third-generation integrated unit with both of these mounting flanges.

Since then, we have developed and have started commercializing the "V-series hub joint," reducing weight in terms of integration of constant velocity joint* and hub bearing.

Our company will continue to work to improve vehicle fuel economy, improve safety, reduce weight, and reduce costs.

* Constant velocity joint: Joint portion of driveshaft, which transmits engine power to wheel.

Evolution of hub bearings







Structure of hub bearing with a high-resolution rotational sensor manufactured by SNR Magnetic encoder



Hub bearings with a high-resolution rotational sensor

Hervé Brelaud Vice-President of Engineering, SNR



Cooperative Development NTN-SNR: Bearing *"A la carte"* for the World

Automotive has entered into a new era of maximum safety for passengers, highest reliability and environmental friendly technology.

In many fields this must lead to technical quantum leap.

In that spirit NTN and SNR join their research forces to develop a new generation of wheel bearings combining the best achievable performance for conventional function (torque reduction, life duration, precision) and most advanced mechatronics features as high resolution speed measurement and real time wheel load sensing.

These new technologies will offer a breakthrough in Global Chassis Control (GCC) and Powertrain efficiency (Engine management, Traction Control). By union of both NTN and SNR technological assets, by sharing a common

vision, we aim to develop Human and earth friendly products and solutions.

 In April 2008, NTN obtained 51% of the outstanding shares of SNR, which is now an NTN subsidiary.



CO₂ emissions by mode of transportation (g-C/tonk)



Source: Joint meeting materials from Council on Domestic Countermeasures for Global Warming

Encouraging a Modal Shift with Tribology

ouble the product life with increased speed / Three features that control wear by controlling temperature increases

With an increasing focus on a modal shift away from trucks and airplanes to transportation with less energy usage and CO₂ emissions, rail transport has recently become a star alternative. That being said, rail transport competes with other modes of transport for customers and has a growing need to **reduce costs and increase speed**.

NTN has been supplying critical parts for trains in the form of bearings for the main motor, bearings for the drive system, and bearings for axles.

In 2006, responding to the needs of society and requests from railroad companies, we developed the **"New High-speed Bearing Unit for railroad journal applications" (new RCT*** **bearing)**. We increased the durability of the part, doubling its life. We were also successful in lowering the running costs by extending the maintenance period and ensuring safety even at high speeds.

hree new features were used in this product to double its life

The RCT bearing is a sealed double-row tapered roller bearing, and is the newest version of the tapered roller bearing for railroad journal applications.

The first feature was replacing the steel cage used to evenly spread out the tapered rollers with one made out of a special plastic. This controls the generation of particles from wear, allowing smooth rotation to continue. It also increases shock resistance.

The second feature was adopting a spacer that reduces the wear caused by the slight friction between the inner ring and the end cap.

By putting in a rubber lip, we have prevented the particles that are worn off from going inside the bearing.

The third feature was an improved seal shape. These improvements have allowed heat generation to be controlled while maintaining the seal, decreasing the temperature rise of the seal by 20°C at a speed of 345 km/h in comparison with conventional products.

Extending the life of railcar bearings to make rail transport faster and more environmentally friendly

Rail transport is a high-volume mode of transportation that has a low environmental impact. NTN technology contributes to its spread and development in Japan and around the world.

Participating in the world's largest rail transport trade show

Since 2004, NTN has participated in the world's largest rail transport trade show. We plan to participate in 2008 as well.





eeting the needs of railways around the world

The new RCT bearing allows the maintenance interval period to be extended from once every 450,000-600,000 km to once every 1.2 million km – double interval of the conventional product.

This bearing is intended not only for the Japanese market but also the European market, where there is heightened concern for environmental problems and where the railway network is growing with an increased emphasis on high-speed rail transport. We are aiming the RCT bearing at other parts of Asia as well, particularly China, where there is a great deal of infrastructure growth and where high-speed rail transport is expanding.

This new RCT bearing is being used already in medium-speed trains in China and commuter trains in North America.

Rail transport is a high-volume mode of transportation with a low environmental impact. NTN is working to reduce costs, support increased speeds, and ultimately **contribute to a world-wide modal shift** with our products.

* RCT bearing: Rotating end cap tapered roller bearing.





Bearings for driving gears This is used in the gearbox, which transmits the power from the motor to the shaft.

Bearings for wheel axles These are built into the wheel axles, which bear the weight of the railcar.



Insulated bearings for main electric motors These are installed to prevent electric pitting

New High-speed bearing unit (new RCT[®] bearing) for railroad journal applications

By putting a spacer between the inner ring and end cap, the slight friction between them was reduced. Also, a rubber lip prevents wear particles from going into the center of the bearing.



Ryutaro Oka Global Application Manager (Railroad) Industrial Sales Headquarters



NTN achieves both increased speed and an extended maintenance periods

Currently, high-speed trains (more than 300 km/h) are being developed all over the world. There is a demand for cost reductions by extending the maintenance period for these trains. To meet both of these needs, NTN developed the new RCT bearing for railroad journal applications.

Our new RCT bearing builds on the high-speed technology that we have accumulated with the bearings for the Shinkansen (Japan's bullet train), and by incorporating a newly developed plastic cage with a fretting-resistant sheet, allowing us to meet not only standards in Japan but also the EN standard used by both Europe and China.

We will continue our R&D for improving the reliability of bearings, which are one of the most important parts found on a train.



Causes of death (2005) (per 100.000 people)



Ministry of Health, Labor, and Welfar 2005 Vital statistics overview

Solving Medical Problems with Tribology

A ventricular assist device is a ray of hope for patients with chronic congestive heart failure

Heart disease is a major cause of death in developed countries, and in Japan, it is one of the top three causes of death along with cancer and stroke. The most common and difficult heart disease to treat is congestive heart failure, where the pumping ability of the heart decreases, and blood does not reach the entire body.

The most effective treatment is a heart transplant, but there is always a shortage of organ donors. The ray of hope for patients suffering from this condition is **circulatory assistance with a ventricular assist device.**

n 1991, NTN developed a revolutionary blood pump that uses a magnetic force to levitate an impeller

Previously, blood pumps for artificial hearts were pulsatile pump that simulated the motion of a heart, but this type of heart was expensive and it was difficult to reduce its size. In recent years, continuous-flow blood pumps, which have fewer parts and can be miniaturized, has been receiving attention as an option that increases the QOL (Quality of Life) of patients.

However, these continuous-flow pumps also have drawbacks. When the bearings supporting the impeller that is used to pump blood all over the body and seals are in the pump chamber, these parts interfere with the flow of blood, increasing the chances of blood clots. In addition, the friction of the bearing crushes the cell membrane of the red blood cells, which generates hemolysis.

NTN focused on this problem and applied the magnetically levitated bearing technology for the use in the clean rooms used in a semiconductor manufacturing process where not even fine particles of dust are permitted. In 1991, NTN teamed up with Professor Teruaki Akamatsu (currently a Professor Emeritus at Kyoto University), a world authority on assistive artificial hearts, to develop a "centrifugal blood pump with magnetic levitation technology for ventricular assist devices." In this revolutionary system, the position of the impeller is detected with sensors and the impeller is levitated with electromagnets, allowing the bearing and seal to be completely removed from the pump chamber.

Using our unique magnetic bearing technology in a ventricular assist device for transplant patients

NTN's non-contact bearing technology is used in the blood pump of an artificial heart.

Bearings play a part in the medical field in CT scanner technology

NTN not only supplies specialized parts for artificial hearts, but also for CT scanners, which are important medical diagnostic tools.

There are high expectations for NTN bearings as an important part underpinning smooth motion in CT scanners with increased speed and diversification.



This innovation solved the problems with conventional blood pumps.

S ales of our implanted artificial hearts start in Europe; Clinical trials start in the US and Japan

After that, we started a partnership with Kyoto University and TERUMO CORPORATION, a major manufacturer of medical equipment to research and develop a implantable artificial heart that lasts for long-term patient support. The three partners created various types of prototypes and carried out animal tests in order to demonstrate that this non-contact bearing technology can provide high durability and resist blood clots. We also confirmed through durability testing that the levitation of the impeller remained stable even when subjected to intense vibration during exercise.

After that, we carried out two types of animal testing – one using an external device and one with an implanted device – and we achieved the world record for the longest continuous operation of a continuous-flow pump. TERUMO CORPORATION, moved their R&D facilities to the US in 2000, and clinical trials started in Germany in January 2004. Thirty-three patients used our products and we are monitoring their effectiveness and reliability. Then in August 2007, the devices became available in Europe as the **Dura Heart**, and clinical trials are also planned in the US and Japan.

We will continue to improve our magnetic bearing technology to improve the quality of life for patients.



Saving patients with severe heart failure – the dream that we shared with NTN became the key to success



Chisato Nojiri, M.D., PhD, Senior Executive Officer, Terumo Corporation Chairman & CEO, Terumo Heart, Inc.

Awarded "2008 Woman of the Year" by the women's magazine Nikkei Woman. (Japanese technology goes out into the world: The development of a durable and commercially viable ventricular assist device) The development of artificial hearts requires various fundamental technologies (including material, electrical, mechanical, and software technologies). The **Dura Heart** is a device that was made possible by bringing together NTN's strengths with those of Terumo, but neither company has ever had a product that took over 10 years to develop and bring to market.

A variety of technologies (material, electricity, machine, and software, etc.) are necessary for the development of the artificial heart.

In 2007, we were able to commercialize this product in Europe. We believe that it is our mission to provide patients suffering from heart failure all over the world with even better artificial hearts. We plan to add more improvements to make this heart easier to use for patients and to work on the 2nd generation **Dura Heart** with NTN.

We joined forces with NTN engineers, who brought superb technical skills to the table to develop this product

When I first saw the magnetic levitation pump on a sheep, I had my doubts about whether we could really make it compact enough to implant. After that, however, I saw firsthand the technical prowess of NTN and my doubts disappeared.

Even though we have different specialties, we were all able to learn from one another, and it was great to be able to develop this product with a sense of unity.

> Takehisa Mori Research Manager, R&D Center Terumo Corporation







TN is using natural energy sources such as solar power and wind power at its plants

In 2007, NTN Group sales increased by 10.3% over the previous fiscal year, resulting in a greater level of production. With the deepening global warming crisis, however, we could no longer ignore the increase in CO2 emissions from increases in production volume. It was for this reason that we focused on large-scale energy reduction improvements and productivity increases in the plant, and we were able to restrict our total increase in CO2 emissions for fiscal 2007 to 3.8% over the previous year (See p. 42).

We actively use wind and solar power generation to help us reduce CO2 emissions. To date, we have installed solar power generators (6 units), wind power generators (9 units), and hybrid generators that produce both wind and solar power (13 units) for a total output of 317kW. This means that we generate 350MW-h per year (in fiscal 2007), corresponding to a decrease of 160 tons/year of CO2 emissions.

We are planning to install large-scale solar

and wind power generators at new plants and buildings that are completed in fiscal 2008.

TN promotes energy conservation in employee households with the "NTN Household Eco-Account Book"

We estimate that approximately 83,000 tons of CO₂ is emitted by the households of NTN Group employees*¹. This is more than 20% of the CO₂ emissions from all the plants in the group, so we regard reducing the CO₂ emissions in employee households as an important issue.

Because of this, the NTN Group issued an "NTN Household Eco-Account Book*2" to approximately 10,000 employees and temporary employees in Japan, and we called on them to use it starting in January 2008.

The Household Eco-Account Book is used to record how much electricity, gas, water, kerosene, and gasoline are used (and their CO₂ equivalents) and to find the costs of these items every month. By comparing numbers with the previous month and the previous fiscal year, employees can get

Protecting the earth is the most important issue Working together to reduce **CO2** emissions at work and at home

NTN is working as a company to reduce CO₂ emissions by using natural energy, and we urge each one of our employees to be environmentally sensitive at home.

Examples of energy conservation improvements

In August 2007, Kuwana Works (Kuwana City, Mie Prefecture) changed the 185 mercury lamps in its heat treatment plant to metal hydride lamps, reducing the yearly CO2 output by 185 tons a year.



Also, in January 2008, NTN Casting Corp. (Izumo City, Shimane Prefecture) replaced its compressors with the latest models in order to conserve energy, and introduced inverter-based fluorescent lamps to improve illumination efficiency These efforts resulted in a reduction of 690 tons of CO2 a year.



Wind power generator at **NTN Mie Corporation** Power generated: 3.5 MWh/year Reduction in CO₂ emissions: Approx. 3 tons/year

Wind power generator at the **Kuwana Export Distribution Center** Power generated: 17 MWh/year Reduction in CO₂ emissions: Approx. 8 tons/year

Solar power generators at NTN Mie Corporation's Plant No. 2 Power generated: 102 MWh/vear Reduction in CO₂ emissions: Approx. 46 tons/year

NTN

Wind power generator at **NTN Fukuroi Corporation** Power generated: 7 MWh/year Reduction in CO₂ emissions: Approx. 3 tons/year an idea of the energy their households consume regularly, allowing them to become more aware of conserving energy. It may take some time to get used to filling in the book, but energy conservation also leads to monetary savings, so we want to firmly establish the relationship between being good to the environment and better living.

We also provide the Household Eco-Account Book to retailer/retail stores and suppliers who want to try using it at their companies.

We will continue to monitor the Household Eco-Account Book and how much it is being used in order to increase awareness of household energy conservation.

O ur target is to emit 10% less CO₂ in fiscal 2010 than in fiscal 2007

Until now, the NTN Group has been measuring CO₂ emissions per unit of production – CO₂ emissions divided by the value-added production (which is calculated by subtracting the variable manufacturing costs from the sales-based production volume). Our target was to achieve a

25% reduction over

fiscal 1997. However, because the Kyoto Protocol calls for reductions in total CO₂ emissions, we have decided to set a target for total emissions this fiscal year.

In particular, we are aiming to reduce our CO₂ emissions to 317 thousand tons of CO₂ in fiscal 2010 (A 10% reduction over fiscal 2007)*³. To achieve this target, we will carry out fundamental energy conservation improvements at our primary operating sites and actively use natural energy sources.

We will also implement Japanese energy conservation technology at our overseas operating sites in order to reduce the NTN Group's global CO₂ emissions. Global warming is the most important issue facing humanity.

The NTN will work in concert to do what we can to address this issue.

電気

ガス

水道

打油

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ボノリン

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CIB.

(kWb)

都市ガス

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(m3)

(8)

(8)

(2)

(缶)

- 1 Basis for estimation: (Approx. 8.3 tons CO₂ emitted/household) x Approximately 10,000 households = Approximately 83,000 tons.
- *2 Environmental Eco-Account Book: Created by the Environmental Agency (Currently the Ministry of the Environment) in 1996; it was distributed to whomever wanted a copy. By quantitatively determining the amount of electricity and gasoline used by a household, it becomes possible to understand how much CO₂ is emitted by a household.
- CO2 emissions: Calculated based on each power company's target CO2 emissions factors (per unit electric power) for fiscal 2010.

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Just copy the monthly amounts from your electric or gas bill into the Household Eco-Account Book.

Tomoyoshi Izutsu Automotive Engineering Department, Automotive Sales Headquarters

Manami Izutsu Needle Roller Bearing Engineering Department, Automotive Sales Headquarters



Since we started using the Household Eco-Account Book, our children have become more interested

After seeing a TV show about environmental problems, and thinking that each one of us must work a bit harder to preserve the environment, our family decided to use the Household Eco-Account Book.

It's been several months since we started. We haven't seen any numerical changes, but the children have become a bit more interested, and they help us fill out the pages. We turn off the lights in rooms we're not using, and we don't let the water run when we're brushing our teeth.

We have started to put into practice energy conservation in my home by not using energy we don't have to use. For example, we always make it a point to turn off the lights. The Household Eco-Account Book was a good opportunity for our entire family to start conserving energy.

Solar power generators at NTN Kamiina Corporation Power generated: 55 MWh/year

55 MWh/year Reduction in CO₂ emissions: Approx. 25 tons/year





Globalizing our Business and Localizing our Operations

perations in Thailand, which started with 5 people, have now grown to over 4,000 people

When NTN first established the operating site in Thailand in 1974, motorization had yet to reach this country. Let's go back to when we established NTN BEARING-THAILAND CO., LTD. in the capital, Bangkok. At the time, there were only 5 people, and we sold bearings to textile plants and retail stores as spare parts for repairing equipment.

After that, Thailand started industrialization and developed an auto industry so vibrant that it was called the Detroit of the East. NTN established NTN MANUFACTURING (THAILAND) CO., LTD. (NMT) in 1998 to manufacture automotive products and established NTN-NIDEC (THAILAND) CO., LTD. (NNTC) to manufacture precision components. Both companies were established in Rayong Province. These three companies have a total of 4,000 employees.

istening to our Thai employees to create a safe, comfortable workplace NTN's fundamental idea is to respect people

At NTN BEARING-THAILAND, 97% of the 65 employees are Thai, and 83% of management is Thai, and actively hire local staff. Management looks at and responds to the wishes and opinions of our local employees received through the workplace suggestion box.

At NNTC, which produces the fluid dynamic bearings used in IT devices, over 99% of the 1,800 employees are Thai, and 50% of the management is Thai. In terms of safety management, we regularly hold meetings related to safety and hygiene, and if an accident does happen, all managers, staff, and line representatives come together to discuss the problem to ensure employee safety. Also, we value the feedback from employees submitted by the welfare committee, which is made up of employee representatives and management, and we are working hard to create **a pleasant work environment**.

Reports from our three Thai affiliates Working to create a company of the local people, by the local people, and for the local people

The NTN Group is a truly global company; it is made up 49 companies around the world with over 18,000 employees. At the same time, we are working to create companies that are truly integrated into local societies.

Working to preserve the environment and prevent disasters by planting mangrove forests

In March 2008, NTN BEARING-THAILAND employees, families, and friends went to Samut Songkhram province, southwest of Bangkok, to help local residents plant 4,000 mangrove seedlings in 16,000m² of marshland. Mangrove forests are a treasure trove with many small animals and also help to protect land in the monsoon season. We will watch over this mangrove forest as the seedlings grow and rejuvenate the marsh.



NTN BEARING THAILAND staff helping out with the Southeast Asian Games

> NTN BEARING-THAILAND participating in Children's Day activities



At NMT, which produces automotive bearings and constant velocity joints, 99% of the 2,000 employees are Thai, and key people are sent from Thailand to the Mother Plant in Japan for training in order to raise the technical skill level. We also regularly carry out workplace training related to safety, hygiene, and environmental preservation. In May 2006, our energy conservation, industrial waste reduction activities, and welfare initiatives were **recognized by the Thai Industrial Ministry** and **NMT was designated a "Plant of Excellence."**

C oexisting and working with the Thai people

Our company strives to coexist and develop together with local people around the world. Thailand has a large number of devout Buddhists and the king is adored as the supreme defender of the Buddhist faith.

Our Japanese employees work to understand the Thai people, their culture, and their customs, and to give them proper respect.

CHIANG MAI BRANCH

At NTN BEARING-THAILAND's Khon Kaen Branch, we have been making donations since 2005 to help the local elementary school's futsal team cover expenses. Since 2006, we have been supporting the Samut Songkhram Technical College with donations to help them enter the robotics contests. In December 2007, we helped out with the Southeast Asian Games that were held in Nakorn Ratchasima province; this is an example of **the many** ways that we engage in social contribution activities.

It is NTN's sincere hope that Thailand's young people – and the world's young people – will grow up healthy and help the world to develop further.

List of social contribution activities in Thailand

 Sports Helped with the Southeast Asian Games

Education

< For University >

Accepted internships

Supported youth soccer teams Participated in local soccer tournaments

Donated money to help with exhibitions and robotic contests Donated PCs

- Hospitals
 Donated money to build a hospital
 Donated to an AIDS fund
- Cleaning and greening activities Planted mangroves



NTN BEARING-THAILAND supports a local futsal team

 NTN BEARING-THAILAND CO., LTD. HEAD SALES OFFICE
 NTN BEARING-THAILAND CO., LTD. KHON KAEN BRANCH
 NTN BEARING-THAILAND CO., LTD.

BANGNA BRANCH

THAILAND BANGKOK

CHIANG MAI

NTN MANUFACTURING (THAILAND) CO., LTD.

NTN BEARING-THAILAND CO., LTD.

NTN-NIDEC (THAILAND) CO., LTD.

NTN BEARING-THAILAND CO., LTD. HAAD YAI BRANCH



NNTC employees



Work in progress at NMT

Malee Kitkancharoensin Section Manager, General Affairs Department, NTN BEARING-THAILAND

Women play an important role in this rapidly growing workplace

AT NTN BEARING-THAILAND, 60% of sales and office workers and half of management are women, and the workplace is a snapshot of Thai society, where it is typical for women to go out into society and work.

I joined this company in 1992. My current work mainly involves corporate planning related to increasing operational efficiency as well as collecting and analyzing information to help establish corporate policies. I always want to be someone who is useful to the organization and to employees working together. This is why I obtained my MBA while working at the same time. I would like to continue to maintain my moral and ethical framework, to work to establish corporate strategies, and to grow along with the company.

CSR Management

Fulfilling our responsibilities to our stakeholders



Working to inform everyone of and thoroughly establish our five Basic Policies

Our Corporate Philosophy is as follows: We shall contribute to an international society through creating new technologies and new products. To put this Corporate Philosophy into practice, it is important for everyone inside and outside the company to know what policies guide us in our work and for each one of us to embody these policies.

To do this, our company has established five Basic Policies, and we are working to make sure that all officers and employees are fully informed of them.



The basis of our Corporate Philosophy system: Each one of our employees works to realize CSR

In April 2006, "NTN established a CSR Policy" to help us become an even more trusted corporation, and we have made CSR an essential part of our business in order to raise our Enterprise Value. By bolstering our corporate governance and by acting to preserve the global environment, to make a social contribution, and to improve our workplace environment on a solid bedrock of total compliance, we declare that we will fulfill all of our responsibilities to our stakeholders.

At the same time, we established an Employee Code of Conduct that urges employees, managers, and supervisors to be proactive. We also revised the Business Code of Conduct that directors and employees are required to follow.

We used the CSR Guidebook and the Response Card to inform all directors and employees of these developments and we publicized the results on our website to inform people outside the company.



NTN's Corporate Philosophy

We shall contribute to an international society through creating new technologies and new products.

For New Technology Network: Connect through new technologies

- 1. Creation of original technologies
- 2. Offering technologies with added value and services that are suitable for each customer and end user.
- 3. Improvement of employees' standard of living, distribution of fair returns to stockholders, and contribution to a society based on the steady growth of our business.
- 4. Promotion of globalization and formation of a corporate management system, which are essential for NTN as a leading international company.

CSR Policy

- 1. Legal compliance/Policy for activities: We shall comply with both the letter and the spirit of laws and regulations, and carry out our business activities in an open and honest manner.
- 2. Customers: We shall strive to develop new technologies and new products, as well as to provide safe and reliable products.
- 3. Business partners: We shall engage in fair and free competition, and at the same time establish excellent partnerships with our business partners.
- **4. Stockholders/Disclosure of information:** We shall work to develop this corporation and increase stockholder return, while at the same time communicating broadly with society and actively disclosing information.
- 5. Employees: We shall value the individuality and diversity of our employees, work to create a safe and pleasant work place, and achieve comfort and prosperity.
- 6. The environment: With ample consideration to preserving the global environment and protecting the ecosystem, we shall work toward the creation of a sustainable, progressing society.
- 7. Society: We shall make every effort to interact meaningfully with society on a local level, and to engage in activities that contribute to society.
- 8. International activities: We shall, as a matter of course, obey all international rules as well as the laws of each country and each region that we operate in; we shall also respect local cultures and practices and contribute to local development.



Our new "Advancement of Women" project

NTN has created a CSR Committee that has CSR managers from each department and each group company in Japan; this committee engages in CSR activities on a regular basis. In Japan, in order to support CSR activities at various levels, the CSR Department periodically convenes meetings of the CSR Committee to better understand the CSR plans and activities and CSR performance for each organization.

In fiscal 2007, as part of the CSR Committee's activities to expand opportunities for women to excel, our Personnel Department officially started the "Advancement of Women" project. These activities are intended to promote additional opportunities for our female employees (See p.30).



Activities related to the "Advancement of Women" project



CSR Committee

CSR promotion structure



Chief Management Officer (Director in charge of CSR Department)

> Office (CSR Department)

Employee Code of Conduct

- 1. We respect social ethics and act as good members of society.
- 2. We have noble ambitions and always make efforts to brainstorm and achieve the set target.
- 3. We accept changes, have broad vision and act voluntarily.
- 4. We deepen mutual understanding and enhance the vitality of our work site.
- 5. Management and supervisors in particular, as faces of the corporation, improve their qualifications, make efforts to develop individuals, always take care of safety and show leadership.

CSR Management



One of our most important issues as a corporation

NTN has designated corporate governance as one of our most important issues. We are pursuing greater efficiency and soundness in our management, and we are working to increase corporate transparency through the rapid disclosure of accurate information.

A director's meeting is held every month in order to decide on important items and to direct the execution of business in the company. Also, the Business Strategy Committee is made up of directors as well as executive officers who have been chosen for specific issues; this Committee discusses management strategy and execution. The Executive Officers' Meeting is attended by directors and executive officers to confirm the month-to-month execution status of business.

We employ an auditor system; auditors monitor the board's execution of business operations. The independence and objectivity of the corporate auditors is assured by employing three outside auditors among the four auditors who make up the audit team (Standing: 2, Part-time: 2).

In terms of internal audits, we have created an Internal Audit Department as a separate auditing structure. This department carries out audits related to the execution of business across the company.





The CSR Department, Legal Department, and Personnel Department promote and manage compliance

NTN has established a Compliance Sub-Committee under the CSR Committee. This sub-committee is made up of the CSR Department and the Legal and Personnel Departments. The CSR Department investigates and analyzes compliance and risk and is in charge of education and awareness-raising activities related to compliance. The Legal Department judges issues based on the law and NTN's internal rules, and is in charge of our help line management. The Personnel Department is in charge of evaluating issues from the perspective of personnel measures and policies. This system allows us to promote and manage compliance comprehensively on a company-wide scale for NTN and our group companies in Japan.

Also, the Chief Management Officer for CSR, the CSR Department, and the CSR managers from each department work together to ensure compliance.



We are clarifying the Business Code of Conduct for directors and employees

In fiscal 2006, we established a CSR Policy and an Employee Code of Conduct; we also revised our Business Code of Conduct. Our Business Code of Conduct requires that in order to fulfill their corporate social responsibilities, each one of the NTN Group's directors and employees be thorough in their compliance and be fair in their actions.

This is not limited to just obeying the law; through a shared Business Code of Conduct, we are putting into practice a philosophy that is based on a framework of values and ethics characteristic of good associates of a corporation and good members of society.

Expanding compliance training for employees

During the training of new employees and third-year employees, as well as during management training, we educate our employees about CSR issues, compliance, and corporate law.

Also in fiscal 2008, we revised our CSR Guidebook and we plan on holding a meeting to explain CSR and compliance to all of our managers.

Help desk for employees to make inquiries, get advice, and make a report

Suppliers can now access our help desks

At NTN and our Japanese group companies, employees are able to make a report if they discover or foresee any actions taken by directors or employees that contravene the law, our Business Code of Conduct, and our internal rules. They can report such compliance issues directly to a help line or to a help desk by fax or e-mail. They can also make inquiries, get advice, and make a report without going through management.

There are two help lines: one is the Internal help desk that our Legal Department responds to, and the other is the External help desk that a legal office advising our company responds to. Both of these entities work to ensure that people



Compliance training for new employees

who make a report are not punished. We have also informed our employees of how to use these help lines in our CSR Guidebook and in our CSR/compliance education.

Since March 2007, we have also let our 602 suppliers access these help lines so that we can receive inquiries, give advice, and receive reports of illegal activities.

Protecting personal information

A person in charge in each department works to ensure personal information is protected

NTN has created rules and a manual for managing personal information, and we have established a management system headed by a chief manager or a person in charge of managing personal information in each workplace.

NTN properly handles personal information based on our rules and manual related to managing personal information. Our Internal Audit Department does periodic audits to make sure that it is being managed properly.

Business Code of Conduct

1. Compliance with laws and norms

We shall do our utmost to act according to high principles as corporate employees and as socially responsible adults by complying with laws, our internal rules and the ethical norms of society.

Code for business activities

2. Pursuit of quality and safety 3. Compliance with the Anti-Trust Law 4. Fair trade with suppliers 5. Honoring agreements

6. Refusal to engage in improper conduct with business partners 7. Proper labeling and specification

10. Ensuring security by strengthening export controls 9. Proper control of confidential information 8. Respect for intellectual property rights 12. Compliance with corporate accounting principles 11. Compliance with industrial laws

Code for co-existence with society

14. Promotion of environmental preservation 13. Compliance with international rules 15. Positive contribution to society

Code for ensuring a positive work environment

- 17. Realization of a safe and positive work environment 16. Compliance with labor-related laws and company work rules
- 18. Respect for human rights 19. Prohibition of sexual harassment 20. Proper control of information about individuals

Code for corporate employees

- 21. Strict distinction between public and private matters 22. Confronting harmful social forces
- 24. Prohibition of insider trading 23. Proper utilization of our information system 25. Self-restraint regarding entertainment and gifts
- 26. Lawful donations/political donations

CSR Management



Creating a risk management system that is proactive – not just reactive

In March 2008, we established a "Risk Management Policy," and we replaced our "Emergency management rules" with our new "Risk management rules," which is an integrated response process that includes everything from measures to prevent risk to those related to emergency response. We also established a new Risk Management Committee.

The Risk Management Committee works to oversee the management of risks carried by NTN, and we have identified departments with critical risks through a risk identification and evaluation process. Each department carries out risk



reduction measures and, if an incident does occur, is able to carry out emergency measures. The Risk Management Committee monitors progress.

If a serious crisis does occur, we will set up a central task force department that will give instructions to mitigate any damage.

These measures are also being implemented at NTN Group companies

We have informed our group companies of our Risk Management Policy, and we have instructed each company to create a risk management system.

NTN's Risk Management Committee works to address the critical risks facing the group as a whole.

We place an emphasis on earthquake and fire countermeasures to ensure a steady product supply

Our Manufacturing Department has prepared for earthquakes and fires based on the Fire and disaster management rules in order to prevent our customers' production lines from ever coming to a stop due to natural disasters or accidents.

As of the end of fiscal 2007, 84% of earthquake resistance improvements to our manufacturing facilities in terms of floor area were complete. As for disaster training, we carry out evacuation and firefighting exercises every year at each manufacturing workplace. Moreover, we carried out

training on safety check for all employees using an internet-based registration system in March 2008.

We will continue training on rapid restart of production in the event of an emergency.



Earthquake resistance improvements underway at Okayama Works



Firefighting training at Iwata Works

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Social Aspects

NTN strives to increase Enterprise Value to stakeholders.

In order to achieve this, we are working to improve awareness of our responsibilities to our various stakeholders and to fulfill these responsibilities.



Responsibility to Customers

Working to provide top-notch quality and service



Basic Quality Policy

"To assure appropriate quality in order to achieve the functions and specifications required by customers"

- NTN's quality must be in step with the market change. (Applicable quality)
- (Applicable quality) on NTN's quality must be superior to the competitors' quality. (Competitive quality)
- NTN's quality must be profitable in the marketplace. (Economical quality)

FY 2007 Period Quality Management Policy

Engineering

"Design Leads All" is the basic concept we use to improve quality starting from the foundations of MONOZUKURI

Our Engineering Department regards the idea that "Design leads all" as basic policy and is working to improve quality using MONOZUKURI as the basis.

First, designers accurately learn the functions required by the customer and the conditions of use and then work to create easy-to-understand, easy-to-manufacture, and mistake-proof products with clear and detailed instructions on the drawing to prevent mistakes during manufacturing. In addition, suitable specifications are chosen for the intended manufacturing worksite. Even after designing the product, a design review is done by a group including the person in charge of manufacturing in order to assure the design and function of the product. We also believe it is important that the design review personnel physically see and touch the actual product to ensure the highest level of quality.



Thorough 5S in the manufacturing workplace

Production

Establish systems on the following premise: "Humans will make mistakes and machines will fail"

NTN's manufacturing department promotes the creation of systems based on the premise that humans will make mistakes and machines will fail.

We promote creating a process that prevents errors and compensates for both mistakes and malfunctions to prevent problems from occurring. This is done by thoroughly establishing 5S (Five Japanese words beginning with S: seiri, seiton, seisou, seiketsu and shitsuke, or organization, arrangement, cleaning, cleanliness and discipline respectively)

In addition, we have a process management system with traceability so that lots with defects can be identified; various methods are used to prevent the recurrence of problems.

Sales

Provide what customers require

Our sales departments have "Grasping of customer requirement and communication" as a basic policy. Our sales staff works to understand our customers' needs and rapidly report them to the company.

We respond positively to requests by customers to change specifications and designs. If there were ever a problem with quality, we would pass this on to the departments concerned to address and resolve the problem. We also work to understand our customers' level of satisfaction with respect to our products' quality, delivery, cost, and engineering response to improve this level of satisfaction.

FY 2007 Period Quality Management Policy Engineering

"Design Leads All" was continued

- 1. Design easy-to-understand, easy-to-manufacture, and mistake-proof products
- 2. Design in consideration of manufacturing at site
- 3. Completion of design verification
- 4. Promotion of product classification integration

Production

Establish systems on the following premise: "Humans will make mistakes and machines will fail"

1. Observation of the basics 2. Establishment of complete quality assurance system for all production machinery (Cooperation) 3. Overall inspection of process 4. Prevention of Recurrence = System to prevent defect from recurring (70% of claims are the re-occurrence of a previous problem) 5. Ensuring quality of newly launched product = Construction of global system for quality assurance 6. Strengthening and improvement of quelity of affiliated manufacturer 7. Special process 8. Reduction of defect disposal payment 9. Traceability

Sales

Grasping of customer requirement and communication

 Timely internal deployment of required specifications, design changes, and application changes.
 Grasp of customer satisfaction and improvement of evaluation (quality, delivery data, cost, technical response capability) and internal deployment.
 Quick internal action when a quality problem occurs.



Working to continuously improve our quality management system

NTN is working to create a quality management system at all of our operating sites based on the international ISO9001 standard. In addition, at operating sites that produce automotive products, we are working to obtain ISO/TS16949: 2002* certification.

Through the appropriate operation of these management systems and through a commitment to continuous improvement, we are able to prevent defects and provide reliable products to the customer.



 ISO/TS16949:2002: A highly stringent quality management system that is a fusion of the ISO9001: 2000 and the standards set out by European and US automobile manufactures.



Responding to critical quality problems

We will strengthen our global crisis management system

If a critical quality problem does occur, we have a system in place to organize a special emergency team made up of Sales, QA, Engineering, and R&D Depts. to resolve the problem.

In fiscal 2007, there were no recalls. We will continue to strengthen the crisis management system for the NTN Group as a whole, including at our overseas operating sites.

Our customer support system

Providing thorough service on a product-by-product basis and customer-by-customer basis

In order to raise customer satisfaction, we have allocated sales staff and sales engineers for each primary customer and each retail store to directly respond to our customers' requests and questions.

In terms of product information, we have distributed product catalogs to our customers, but our design departments deal directly with special information. Also, our engineers go to our customers and hold technical seminars and product exhibitions. In addition to these efforts, in fiscal 2007, we carried out minipresentations at 16 companies in Japan and overseas as a forum for direct conversation between customers and our engineers and as an opportunity to introduce our products in a detailed manner. These presentations have received a positive response.

Inquiries and complaints from our customers are dealt with by the manager of the applicable branch. We constantly receive inquiries via our web site; these inquiries are automatically routed to the appropriate engineering manager based on the region and the product so that they can be answered quickly.

We will go back to the basics of MONOZUKURI and work to create a system that doesn't lead to complaints. We are also seeing an increased level of environmental awareness in our customers and we will review whether we need to indicate environmental safety on our products.



A mini-presentation for customers where we can comprehensively respond to customer needs

Gauging customer satisfaction

NTN carries out customer satisfaction surveys of our products and services on an ongoing basis to raise customer satisfaction. In fiscal 2007, surveys of our primary customers including those in the US and Europe found that 95% of them found our performance to be "Very good" or "Good" (compared to 92% in fiscal 2006).

The feedback from our customers will be given to our managers in full detail including complaints, and we will continue to work toward zero-complaint products.

Responsibility to Customers

Considering the needs of each market segment

Developing environmentally-friendly products for the automotive industry

Amid rising calls around the world for strengthened measures to prevent global warming, the highly-scrutinized auto industry has a growing need for NTN products, which can be linked directly to energy conservation and better fuel economy. We are working to reduce weight, size, and friction in our products and we are working to develop and provide products free of hazardous substances. We are also working to develop and provide hub bearings with internal sensors (see pp. 7-8).

In fiscal 2007, we made progress toward developing new products that are safer and better for the environment such as the low-torque sealed hub bearing and rocker arm bearing. We respond to the many, varied needs of our customers.



Primary customers requiring ISO/TS16949:2002 compliance and associated site/product

Customer	Customer-specific requirements	Associated site	Products
Ford	Ford Motor Company Customer-Specific	Kuwana Works	Automotive cylindrical roller bearings
	Requirements For Use With ISO/TS16949	Iwata Works	Belt tensioners
		Okayama Works	Axle bearings
Daimler Chrysler		Iwata Works	Automotive ball bearings Automotive needle roller bearings
	Guideline for Quality Assurance in Product Realization (Europe)	Kuwana Works	Automotive ball bearings Automotive cylindrical roller bearings
		Okayama Works	Automotive tapered roller bearings Axle bearings
		NTN Kongo Corp.	Automotive ball bearings
	Customer-Specific Requirements for use with ISO/TS16949 (US)	Nagano Works	Auto tensioners
GM	Customer Specific Requirements For Use With ISO/TS16949	Iwata Works	Automotive needle roller bearings

A special management system for the construction and civil engineering markets

Associated with expanded raw material and energy development around the world, the need for our bearings is increasing in the construction and civil engineering fields. This demand is mostly in the field of mining machines.

Just-in-time systems (systems with no inventory, where parts are produced and delivered when the order is received) are frequently used for mining machines, which is a rarity among industrial devices. To handle these systems, our Production, Logistics, and Sales Departments work closely together to deliver parts with tight delivery windows. In addition, to maintain high quality even with tight timelines, our Production and Logistics Departments have in place a special management system for each part number delivered to our customers.

Providing recyclable products for the electronics market

Electronic products contain miniature and plastic products manufactured by NTN and environmental concerns are first and foremost for these products.

NTN is focused on developing and providing products that are completely free of environmentally hazardous substances and we have internal regulations that are even more stringent than existing environmental regulations. NTN will continue to find new ways to produce recyclable products that are environmentally friendly.

The safety of products for use in rail cars is of the utmost importance

Rail transport is getting a second look around the world from the perspective of preventing global warming because this mode of transportation has very low CO₂ emissions per weight transported. Because of this, rail transport is expanding worldwide, and demand for bearings is also expanding.

In rail systems that transport people, an accident may lead to significant damage. This is why NTN carries out special quality control for products used for rail transport.

A high-level quality management system for the wind power generation market

Wind power generation is spreading in every region of the world as a renewable source of energy with minimal environmental

impact. We can expect further growth in this market. The products that we provide (used in shafts and other areas) require stable performance over the long term, so special quality control is used.

We will continue to create a system that is responsive to customer requirements for this market, which seeks a high degree of quality control.





Working to improve quality with our suppliers

NTN does periodic quality audits of its suppliers of parts and materials. In the fiscal 2007 audit, we found cases of "not enough basic rules and failure to follow these rules," and we are working to improve these areas.

We also hold a "Supplier quality improvement meeting" once a year where suppliers describe their quality-related activities so that we can all learn from each other.

These activities have resulted in a decrease over the years in customer complaints from problems with our suppliers. We will continue to work with our suppliers to further improve quality.



A "Supplier quality improvement meeting" in progress

Ongoing technical education of our sales agents

NTN has a network of sales agents. Our "Domestic Sales Agent Meeting" in Japan holds periodic exhibits and training sessions. We also host forums on technical education to increase knowledge of our products in terms of their design, function, and handling methods.

In fiscal 2007, we held technical seminars at our Domestic Sales Agent Association in Japan as well as at various branches. These seminars were aimed at new and mid-level employees at our agents and are customized based on the level of the participants (beginner or intermediate). The seminars have been received positively by participants.

We will work to further enrich our technical talks and continue them on an ongoing basis.

Giving information to our customers

Promoting NTN products at trade shows

We have exhibits at trade shows and exhibitions to increase customers' level of understanding about our products.

In fiscal 2007, we had exhibits at trade shows and exhibitions such as the Tokyo Motor Show. We supported the Tokyo International Automotive Conference and we have been a partner of Honda's F1 racing team for four consecutive years. By taking out advertising in newspapers and other media in conjunction with these events, we increased NTN's brand recognition.

For future exhibits, we will prepare exhibits so that we can project a corporate image and product information that is unified in order to get people to understand our company better.



The NTN exhibit at the Tokyo Motor Show

Column Product development that puts the emphasis on customer needs

We work to learn our customers' needs through exhibits and visits to customers to develop environmentally friendly, safe, and easy-to-use products.

For instance, in fiscal 2007, our customers asked us to make component parts smaller. In response, we developed the chain tensioner used to maintain tension in the timing chain used on automotive engines, which is called the "Chain Tensioner without Oil-supply." By making it unnecessary to supply the tensioner with oil, we contributed to make an oil pump smaller.

In addition to this, we have worked on environmentally friendly improvements such as lower torque, less weight, and longer life, as well as fundamental technologies such as non-petroleum-based lubricants and materials free of rare metals.



Responsibility to Suppliers

Establishing prosperity together through good partnerships



Strengthening our procurement activities with greater emphasis on the environment and safety

Our basic policy regarding our procurement activities is to provide good products at a good price to the world based on consideration for the environment, quality assurance, and being fair. It also involves raising our Enterprise Value over the long term by working together with our suppliers.

We also place an emphasis on creating good, long-term business relationships; to us, our suppliers are strategic partners, and we will work together to improve quality and technical skills based on a foundation of mutual trust and cooperation.

In fiscal 2007, in order to introduce green procurement and to respond to changes to related laws and regulations, we changed our basic purchasing contract, and we signed the revised agreement with our suppliers. Based on these changes, we will push even more strongly for environmental friendliness and product safety.

Basic procurement policy

- 1. To pursue stable procurement for best quality/cost and prepare for market fluctuations.
- To improve corporate value for both sides through mutual cooperation.
 To create trust with affiliated companies by observing rules, regulations and social precepts.
- 4. To comply with social duties (such as preservation of the global environment) through procurement activity.

Maintaining fair and appropriate relationships

Maintaining fair dealing based on self-audits

To ensure fair dealing, our company established a voluntary audit manual for subcontractors in 1997 and created a system based on internal audits by subcontractors. These self-audits are based on requests from individual operating sites and on the judgment of the Procurement Dept., and are done with the Procurement Dept. present.

Also, in order to establish the importance of fair dealing with our subcontractors in the minds of our employees, we require our procurement staff to attend annual talks and external seminars related to dealing with subcontractors fairly.

We will continue to strengthen our system for fair dealing.

Supplier meetings

NTN holds supplier meetings twice a year.

In fiscal 2007, 77 suppliers participated. We explained our procurement policies for fiscal 2007 to our suppliers. These policies are "securing stable as-delivered quality" and

"reducing procurement costs." We also recognized 21 suppliers for a diverse range of achievements such as quality, increased production, price, and ISO certification.



The March 2008 supplier meeting

Dialogue with suppliers

Suppliers can now access our help desks

Accompanying the Whistleblower Protection Act that was put into force in April 2006, our help line (see p.20), which is a means of disclosing information in the public interest, was expanded in scope to include our suppliers.

Any consultation with suppliers is done by a manager that has nothing to do with the supplier's regular contact person, and we ensure that anyone making a report is not punished.

Column Safety and hygiene management for suppliers and external workers*

NTN focuses its safety and hygiene management not only on our own employees, but also on suppliers and external workers. Our current initiatives include: (1) reducing accidents that occur during irregular work; (2) expanding NTN's labor safety and hygiene management; (3) promoting mental health activities in the workplace; and (4) promoting increased health.

In fiscal 2007, 70% of the workplace accidents at NTN – including external workers – involved pinch points and being dragged into equipment.

We will continue to carry out thorough risk assessments for irregular work and hazard experience education for both employees and non-employees.

* External workers: These include employees from subcontracting companies, workers from temporary agencies, and part-time employees. External workers being instructed in safety

t also on that occur promoting s rard External workers structed in safety

Responsibility to Employees

Putting an emphasis on fair evaluations and on creating safe, pleasant work environments



The number of overseas employees has increased dramatically

In response to the expansion of our business in Japan and around the world as well as the retirement of the baby-boomers, we are working to increase our workforce and secure the personnel from whom we can learn required technical skills and abilities.

We expanded our business in fiscal 2007, focusing on Asia, and there was a jump in the number of overseas employees. This is why we have labor safety education and work standards in English for our foreign employees.

In Japan, approximately 8% of our employees are female, but the number of women in management is still quite low. In fiscal 2008, we increased the number of newly hired women to 24, and we plan to increase opportunities for them.



Human resources development and increased hiring

Putting the right person in the right place

Some systems that we have to carry out human resources development focus on the individual aptitudes of our employees. We also have a self-declaration system and an in-house recruitment system. We will continue to use these systems to help with individual growth as well as career planning and job change planning.

In addition, we employ and otherwise handle non-standard employees according to the regulations for part-time workers and contract employees. However, we have a system through which contract employees that are recommended by their workplace after a year can go through an essay and interview process to become regular, full-time employees. This lets NTN secure good talent.



Training for personnel evaluators

To let us determine the compensation and the position of employees in a fair and appropriate manner, we created a personnel performance evaluation manual to carry out personnel performance evaluations in an equitable way.

In fiscal 2007, we carried out a mass training session for evaluators in order to check that things were being done according to the personnel performance evaluation manual. To improve the precision of the target management sheet that shows each person's work targets, we made the sheet more detailed and we instructed evaluators on their interview techniques.

Educational support system

Developing human resources that are globally relevant

Human resources development at NTN is based on creating human resources that are "relevant to international society," that are "independent individuals," and that are "creative." This way of thinking also applies to our primary affiliates in Japan.

In fiscal 2007, our policies for human resources development were "to create a human resources development system for both Japan and overseas," "to create an educational system to pass on technical skills and abilities," and "to be thorough in following up with actual performance." In addition to working to ensure the continuation of skills and carrying out specialized training for employees at different levels and in different work categories, we also carried out job-specific training for engineers, production managers, and fabrication managers.

In addition, to connect education and training to actual performance at the worksite, we have evaluators manage skills by looking at work performance and we use post-training exercises, tests, and questionnaires to quantitatively evaluate the results of our training.

In response to the increasing number of overseas operating sites, we are increasing the number of overseas plant support staff, expanding our training system for employees going overseas, and creating a system for training local trainers.



MONOZUKURI skill training in progress

Responsibility to Employees

Helping people achieve a balance between work and family

We created a reemployment system that allows employees to have and raise children and we encourage people to take paid leave while raising children

We have various systems to help our employees achieve a balance between their work and their family.

Starting in January 2007, we have operated a re-employment system (the "mom-back" system) for female employees who quit their jobs to give birth and raise children. This involves having employees who quit to raise children register so that they can be re-employed when they are able to work again. As of January 2008, two people were registered. Also, in order to make it easier for both male and female employees to use their paid leave while raising children, we increased the number of half-day vacations from 10 to 20 and we encouraged people to take these days off. In fiscal 2007, our employees took an average of 7.9 vacations.

In terms of our family support measures, we have a system that allows employees to take leaves of 1 year, which 2 employees are currently using.

Outline of childcare support system

	NTN	Designated by law	
Going to hospital for childbirth	Treated as holiday	_	
Vacation days before birth	6 weeks paid	No pay	
Vacation days after birth	6 weeks paid	No pay	
Childcare time	Twice a day with pay (1 hour each time)	30 min/time without pay	
Exemption from overtime	Until child enters elementary school	Obligation to make best efforts when child reaches the age of three	

* There are also measures to reduce overtime, exemptions from night shifts, and a vacation system to care for children.

Social welfare

Social welfare systems such as volunteer vacations and help with correspondence courses

NTN has put in short sabbaticals and volunteer vacations in addition to the legally mandated paid vacations, and we encourage our employees to take these vacations. In fiscal 2007, one of our hearing-impaired employees took time off to volunteer as a sign-language interpreter.

We also have a system that helps pay for distance education courses taken by our employees to help them improve themselves, and 584 people took advantage of this opportunity in fiscal 2007.

Re-employment system

Two options to re-employ retirees

As the baby-boomer generation is nearing retirement, we have a reemployment system for people in their early 60s that has two options.

The first, the Skill Transfer option, allows participants to pass on their technical skills, abilities, and professional knowledge to young employees. The second is the Full Excellence option, which does not limit their employment category. In fiscal 2007, we re-employed 58 individuals.

Employing disabled individuals

Supporting the employment of the disabled in our "Dream workshops"

We employ disabled people at our regular workplaces. To go a step further and create a workplace where disabled people can excel, we created "Dream workshops" in fiscal 2004 at three manufacturing sites – Kuwana Works, Iwata Works, and Okayama Works. We did this to support disabled individuals in their efforts to become independent and to create workplaces that give people a sense of purpose.

In fiscal 2007, we employed 82 disabled people (8 of whom worked in the "Dream workshop"). Our percentage of disabled employees was 1.82%, which meets Japan's legal requirement.



Adding bar code labels and preparing product packaging in a "Dream workshop"

Occupational safety and health

Our occupational safety and health management system was certified Working harder to become accident-free

We create a safety control plan every year to continuously increase workplace safety and hygiene. In April 2007, the Occupational Safety and Health Management System (OSHMS) of the seven primary operating sites were certified by the Japan Industrial Safety and Health Association (JISHA).

The number of occupational accidents at our primary operating sites in Japan decreased from 42 incidents in the previous year to 31 incidents in fiscal 2007, and the incidence rate and severity rate of these incidents has also gone down. We achieved 4,650,000 hours without accidents (not including non-lost-time injuries), and we were

awarded a Class 2 Accident-free record by the vice-manager of the Labor Bureau in May.

Of the accidents that occur in our primary operating sites in Japan, 70% are irregular work accidents that occur during work such as machinery



Large experiential bearing exhibit at Kuwana Works

adjustments, often involving pinch points and being dragged into equipment. We will continue to carry out risk assessments and hazard experience education to identify hazards and work to strengthen our safety management.

In addition to discussing ways to check and strengthen the safety and health systems at NTN group companies, they also work to understand the status of safety and health at overseas operating sites and are working to improve occupational safety and health across the entire group.

Incidence rate (number of deaths)								
National	 Average for the bearing 		roup companies operating sites	s in Japan and 3 group companies)				
1.78	1.85	1.95	1.90	1.83				
1.01	0.99	0.95	1.17	1.29				
0.15	0.26	0.35	0.34	0.26				
2003	2004	2005	2006	2007 (Fiscal year)				

Severity rate (Lost time)

National average	Average for the bearing in		up companie perating sites	s in Japan and 3 group compar
0.120	0.120	0.120	0.120	0.110
0.030	0.020	0.040	0.070	0.050
2003	2004	2005	2006	2007 (Fiscal year)

Focusing on individual health to expand our preventative health management

To maintain and improve the health of each of our employees, we are working to enrich our preventative health management in response to lifestyle diseases. In addition to legally mandated health checks, we carry out cancer screenings, dental checks, and measures to prevent back injury. We also have walking programs and blood sugar reduction programs. We plan to give level-specific guidance regarding metabolic syndrome in order to comply with the requirement to give special health examinations and to give special health guidance starting in April 2008.

Also, to prevent employee overwork, we are working to understand and manage overtime and systematically instructing employees not to work overtime. Since March 2007, we have required any employee working more than 60 hours of overtime in a month to see an industrial physician. Those working more than 45 hours of overtime in a month may also go see an industrial physician if they or their superior asks for it.

In terms of mental health efforts, we have a system in place in which workplace managers and supervisors talk to employees, notice any changes, and listen to what employees have to say. We also have a system where more experienced employees mentor new employees in consideration of their mental health. We have also set up a counseling room in each operating site where we carry out mini-interviews to determine if employees are depressed or have panic disorder.

In addition, we carry out level-specific mental health training for all managers and supervisors from department managers to team leaders, and we will continue to carry out focused care in departments with large workloads.

Rewards for employee inventions

Clear rules for attributing patent rights and calculating the reward

To recognize our employees' inventions and to improve our technical competitiveness, we have established a patent management system and a patent reward program. We have clarified how patent rights are attributed and how the value of the award is calculated. The program includes know-how and inventions considered to be trade secrets. There is no upper limit to actual awards. Innovations are chosen through an appraisal and deliberation process.

In fiscal 2007, there were 1,720 patent applications, 288 patent registrations, and 50 rewards for achievement.

Dialogue with employees

Listening to our employees through interviews and help lines

Regular employees are interviewed twice a year by their superiors, who evaluate them on their individual targets and set targets for the next time period. To ensure that these evaluations are fair, the interviews are done according to the personnel performance evaluation manual and employees are evaluated by multiple people.

We have also set up internal and external help desks as ways for employees to make inquiries, get advice, and make a report (see p. 20) as well as to respond to various problems including human rights violations and sexual harassment.

Column

Our new "Advancement of Women" project

To increase our competitiveness and to develop ourselves further, we believe that diversity in our labor force is important, particularly giving women opportunities to excel. For this purpose, we started our "Advancement of Women" project in October 2007. The project members include the Personnel Headquarters and 17 female representatives from various departments. These members work to improve employee awareness, change the corporate culture, create systems of opportunities, and develop the abilities of women.

During the monthly project meeting, issues are identified and measures to resolve them are discussed. Sectional meetings for separate regions look at how to implement and promote specific measures.



Responsibility to Shareholders

Appropriate disclosure of information and improving Enterprise Value



We started an email news service that provides timely information

NTN works to rapidly disclose information in a way that is fair and appropriate to all shareholders and investors in accordance with all applicable laws and regulations.

In the course of our IR activities, we place the greatest emphasis on explaining our work, financial situation, management strategy, and our vision of the future in an accurate and easy-to-understand way. We also work to give feedback from shareholders and investors to our management to achieve a two-way dialogue.

We respond to individual interview requests from institutional investors and analysts and we explain our accounting through accounting meetings and teleconferences held quarterly. We also participate in the small meetings held by securities companies. This is all done in order to proactively disclose information in a variety of forums. We held plant tours in October 2007 and February 2008 to let people get a better understanding of NTN. NTN also had an informational booth at events geared toward individual investors.

In March 2008, NTN started an email service to disseminate corporate information. We plan to also release to publications information related to accounting and new products – important news that could affect the bottom line.

Using visual displays of information at shareholder meetings to make things easier to understand

Our 108th annual shareholder meeting was held on June 28, 2007.

At the meeting, we exhibited our products and introduced our businesses with displays. Four LCD screens showed a video outlining our new medium-term management plan, "Growth through Creativity and Achievements 21" as well as how it is progressing. During the meeting, photos and graphs were shown on the screens to make it easier to understand the points made by the chairperson. We will continue to work to create shareholder meetings that are easy to understand and that people want to participate in.



The 108th annual shareholder meeting in progress



Working to achieve stable dividends and improved shareholder value

NTN is working to create new Enterprise Value through creativity, results, and growth. In April 2007, we started our new medium-term management plan, "Growth through Creativity and Achievements 21." Our basic policy in this respect is to work to meet the expectations of our shareholders through stable dividends and an increasing share price.

Our basic approach to shareholder dividends is to provide stable medium- to long-term growth and dividends are determined considering our consolidated performance as well as dividend trends. The annual cash dividend for the fiscal year ended March 2008 was ¥19 per share.

Recognition from outside agencies

Selected by SRI funds and indices

NTN has been recognized in the stock market as a company that is working proactively to satisfy its corporate social responsibilities and has been selected by socially responsible investment (SRI) funds and included in SRI indices.

We were selected by Morningstar in Japan, and FTSE4Good and ETHIBEL outside of Japan (as of June 2008).



S-SRI モーニングスター社会的責任投資株価指数 Morningstar Socialty Responsible Investment Index

Column

Improving our corporate bond rating

We have requested Rating and Investment Information, Inc. to give us a bond rating in order to give investors an objective financial evaluation.

Our fiscal 2007 was A-, the same as the previous year. Because our European business expansion was expected to stabilize profitability and cash flow, we were given a "positive outlook."

We will continue to improve asset efficiency through early returns on invested capital in order to increase our bond rating.

Responsibility to Local Communities

Working with local communities as a good corporate citizen



Supporting voluntary social contribution activities by employees

"Making a positive contribution to society" is a part of our Corporate Philosophy, CSR Policy, and Employee Code of Conduct. Social contribution activities, in our thinking, are "investments in society." Out of all the problems facing society, we select what we as a company should be doing and we call on employees to voluntarily participate.

Currently, NTN and NTN employees are contributing to society in diverse ways such as through local greening initiatives and social welfare initiatives, as well as support for local education, sports, and culture. In addition to satisfying our responsibilities to society through our work by being a good corporate citizen, NTN employees are volunteering to help local society, culture, and education, and sporting events. As a corporation, we support their efforts.

In our overseas operations, we comply with all international rules and local laws, and we contribute to local communities while always being respectful of local cultures and customs.

Working to make sure local communities are safe

Securing the safety of local communities through traffic safety and fire prevention activities

At NTN and NTN group companies in Japan, we cooperate in traffic safety and crime prevention activities to contribute to local communities.

In fiscal 2007, we participated in traffic safety days (4 to 12 times a year) at Kuwana Works (Kuwana City, Mie Prefecture), Iwata Works (Iwata City, Shizuoka Prefecture), Okayama Works (Bizen City, Okayama Prefecture), Nagano Works (Kamiina County, Nagano Prefecture). During these traffic safety days, employees stand watch on the streets and make sure that local children and residents are safe.

At NTN Kongo Corp. (Kawachinagano City, Osaka Prefecture), employees called on people to be careful with fire in their "Autumn roadside fire prevention campaign."



Traffic safety activity around Nagano Works

A system to respond to fires and earthquakes

To be prepared for fires and earthquakes, we have fire and disaster prevention rules and risk management rules so that we can carry out preventative measures and respond appropriately if disaster does strike.

Our fire and disaster prevention rules set out the fundamental rules related to disaster prevention based on the Fire Service Law. In addition to preventing fires and accidents, these rules exist to minimize damage in the event a disaster does strike. In particular, earthquake disaster manuals have been created for individual operating sites so that if an earthquake does occur, an appropriate response is possible.



Firefighter training at Kuwana Works

Dialogue with local communities

Each of our operating sites responds to local concerns

The general affairs departments at our various operating sites act as the contact between local residents and NTN.

In fiscal 2007, there were no particular problems involving noncompliance with laws and regulations, but whenever we had any complaints from our neighbors, we listened to them whether or not there was a problem with the law, and we made all efforts to enact appropriate countermeasures.

We will continue to earnestly listen to the requests of local residents and to satisfy our responsibilities as a neighbor.

Responsibility to Local Communities

Example of social contribution activities

Takarazuka Works Donation of hybrid street lights

In June 2007, Takarazuka Works (Takarazuka City, Hyogo Prefecture) donated a hybrid street light to the City of Takarazuka to help create a bright, safe street and to help preserve the global environment.

This street light not only illuminates its surroundings with the electricity it generates from sunlight and wind, but it's also a symbol of consciousness of the global environment.



Hybrid street light donated to the City of Takarazuka

NTN-NIDEC (Zhejiang) Corp. (China) Helping students attend elementary school

Since its establishment five years ago, NTN-NIDEC (Zhejiang) Corp. (Pinghu, Zhejiang) has been donating money every year to local elementary schools to help children who are unable to attend, and we continued this donation this year.

We will continue to support the desire of children in the local community to learn.

NTK PRECISION AXLE CORP. (NTK) (USA) Participated in a Japanese cultural event at the local library

On May 11 and 12, 2007, NTK (Indiana) participated in a Japanese cultural event with two other Japanese corporations at the Frankfort Library.

We not only donated money to contribute to the local community, but we also helped personally with setup and actually running the event. These efforts were reported the next morning on the front page of the local newspaper.



A local resident looking closely at a bonsai



We introduced Japanese culture through activities such as origami classes

Column A talk on "MONOZUKURI" and bearings at a junior high school

On February 19, 2008, employees went to Mikita Junior High School in Sakai City, where we gave a talk on "What MONOZUKURI companies do." We gave a talk last year here as well.

This was part of a series of lectures on "Work in society" held jointly with the non-profit Osaka Development Institute to get students to think about themselves in the future. Speakers were invited from eight industries, and our company was chosen to give a talk on manufacturing. We discussed the principles, roles, structure, types, and manufacturing processes related to bearings, and the children got to hold actual bearings in their hands. After that, we introduced the different types of work done in a MONOZUKURI company such as R&D, design, production, sales, and management. Our role was appreciated by the school, who said that our talk "was helpful for our junior-high students because they were able to become more conscious of their future careers and their life plan." We will continue to carry out these activities in every region.



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Environmental Aspects

The NTN Group focuses on the research and development of bearings, which is the ultimate environmental product in terms of the environment. We are also reducing the environmental impact of the processes we use to manufacture bearings. In order to more effectively carry out these efforts, we have set and are committed to targets to achieve by 2010, and we are managing our progress year by year.



34

Environmental Management

Improving our environmental management

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 create 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 the impact of our products and business activities on the environment, and to maintain a safe environment for the future.

- NTN will contribute to world-wide energy conservation by developing and providing eco-conscious products using tribological technologies and high precision processing technologies.
- NTN not only will comply with the requirements set forth in applicable governmental laws and regulations but also with customers' requirements and internal standards, as NTN deems necessary.
- Beginning at the research, development and design stages, NTN will endeavor to reduce environmental impacts.
- 4. In its purchase 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 while promoting recycling.
- NTN will endeavor to implement production methods and distribution systems that have less environmental effect in terms of pollution, waste and use of resources and energy.
- 6. NTN will conduct environmental audits and will maintain and improve corporate environmental management systems.
- NTN will cooperate in programs for environmental protection conducted by national and local government entities and will actively participate in regional environmental activities.
- NTN will conduct environmental education. NTN will promote improved awareness of this Environmental Policy and environmental protection to all persons working on behalf of the NTN Group.

January 1, 2008 Yoshikazu Fukumura Chief Environmental Management Officer Director NTN Corporation

Environmental preservation structure

An environmental management committee at each operating site promotes activities throughout the company

In 1993, we established an environmental preservation committee at the Head Office and in the Engineering, Manufacturing, Sales and Logistics Departments. Companywide environmental preservation activities were started.

In 1998, this committee was renamed the Environmental Management Committee, and on-site Environmental Management Committees were established in the Manufacturing and in the Sales and Administration Divisions. By having related companies in Japan participate, we created an environmental management structure that covers the entire domestic group. In our Manufacturing Division, we have set targets for management of pollution prevention, energy and natural resources conservation, and hazardous substances through action committees. In our Sales and Administration Division, we have set targets for the management of logistics and office environments. We set various targets and are acting to achieve these targets. (see pp. 39-40).




Our aim is to have all operating sites around the world obtain ISO14001 certification by fiscal 2010

The NTN Group is promoting acquisition of multi-site ISO14001 certification to structure the integrative environmental management system of all operating sites by 2010.

We are working to develop a structure to get non-certified operating sites – including newly-established sites – to join our multi-site certification.

In fiscal 2007, NTN Fukuroi Corp. (Fukuroi City, Shizuoka Prefecture) and NTN Kinan Corp. (Nishimuro County, Wakayama Prefecture) joined our multi-site certification.

Also, NTN Kamiina Corporation (Kamiina County, Nagano Prefecture) and NTN Bizen Corporation (Akaiwa City, Okayama Prefecture/Nishiwaki City, Hyogo Prefecture) obtained simplified certification such as EcoStage to prepare for multi-site certification.

Overseas, NTN-NIDEC (Thailand) Co., Ltd. newly obtained ISO14001 certification.

As of the end of March 2008, 17 out of our 19 operating sites in Japan have obtained ISO14001 certification, and out of those, 16 operating sites joined our multi-site certification.

Environmental audits

Three different audits showed no major problems

In addition to ISO14001 audits conducted by external organizations, operating sites conduct internal audits and

Operating sites with certification

Desting	Operating site		Date of certification			
Region	Company	Plant	Year	Month	Registration No.	Registration body
	Multi-site certificati	on	1999	11	JSAE176	JSA
Japan	Nagano Works, N NTN Engineering F Hikari Seiki Industr	rata Works, Okaya IN Kongo Corp., Plastics Corp., NT 1 Co., Ltd., NTN	yama Works, Takarazuka Works, , NTN Mikumo Corp., ITN Powder Metal Corp., J Casting Corp., NTN Omaezaki Corp., ,, NTN Kinan Corp., Head Office			
	NTN Tado Corp.		2005	3	JSAE1058	JSA
	AMERICAN NTN	Elgin Plant	2000	6	111994	LRQA
U.S.A.	BEARING MFG. CORP.	Schiller Park Plant	2000	9	112115	LRQA
0.5.A.	NTN-BOWER	Macomb Plant	2000	6	111998	LRQA
	CORP.	Hamilton Plant	2000	6	111999	LRQA

Operating sites expected to be certified

Region	Operating site	Expected date of certification		
negion		Year	Month	
U.S.A.	NTK PRECISION AXLE CORP.	2008	5	
China	NTN-RAB (Changzhou) Co., Ltd	2009	3	

cross-audits on each other to check our environmental management structure from multiple angles.

The ISO14001 certification maintenance and expansion audits carried out in fiscal 2007 only found 10 minor observations at all operating sites. Our energy conservation practices (including the use of natural energy), our support of suppliers in their efforts to obtain environmental certification, and our contributions to local communities were all highly commended.

In fiscal 2007, all operating sites in the group carried out internal audits and although 133 observations were found, none were major. Also, the cross-audits carried out at six operating sites found 14 observations, but none of them were major observations that indicated serious problems.

In order to augment and improve our internal environmental auditors, 28 new auditors were trained at the company's 2-day auditor training session in January 2008. As of the end of March 2008, there are a total of 182 internal auditors throughout the NTN Group.

Environmental risk management system

Ready for natural disasters and chance accidents

The NTN Group has set out "Environmental management rules," "Risk management rules," and "Pollution prevention management rules" so that we have the procedure in place for responding to natural disasters and accidents. We carry out training and equipment inspections regularly.

We did not have any reportable accidents or environmental infractions in fiscal 2007.

Desting	Operating site		Date of certification		Registration	
Region	Company	Plant	Year	Month	Registration No.	Registration body
U.S.A.	NTN DRIVESHAFT,	INC.	1999	12	A8478	UL
U.S.A.	NTN-BCA CORP.		2000	7	A8699	UL
Canada	NTN BEARING CORP.	OF CANADA LTD.	1999	7	287	KPMG
Germany	NTN KUGELLAGER (DEUTSCHLANI		1999	6	201167-2	LRQA
France	NTN TRANSMISSIC	NS EUROPE	2003	1	19479	AFAQ
Thailand	NTN MANUFACTURING (THAILAND) CO., LTD.	2003	3	31634	ΤÜV
mailanu	NTN-NIDEC (THAIL	AND) CO., LTD.	2008	3	C2007-02666	PJR
	NTN-NIDEC (Zhejiang) Corporation		2005	1	02005E10013R0L	CNAB
China	Guangzhou NTN-Yulon Drivetrain Co., Ltd.		2005	4	104043247	TÜV
	Shanghai NTN Corp	oration	2005	7	CH05/0489	SGS

Pagion	Operating site	Expected date of certification		
Region	Operating site	Year	Month	
India	NTN MANUFACTURING INDIA PRIVATE LIMITED	2010	3	

Environmental Management

Environmental accounting

Our 4.474 billion yen environmental investment in fiscal 2007 yielded 873 million yen in economic benefits

In fiscal 2007, we expanded the scope of environmental accounting and increased the number of sites from 14 to 16

Environmental preservation costs

along with expanding the number of sites with multi-site certification. The capital investment into the environment was 1.427 billion yen, while other expenses related to the environment were 3.047 billion yen.

[Accounting standard for environmental accounting] ·Applicable period: April 2007 to March 2008 ·Organizational scope: All 16 manufacturing sites in Japan that have ISO14001 certification (multi-site)

			515		(Million yen/year)	
Classification		Equipment investment			Costs	
Classi	ncation	Amount	Details	Amount	Details	
Cost from within	Pollution prevention costs	50	Environmental equipment (dust collectors, particulate smoke removal devices, and wastewater treatment equipment)	128	Maintenance, inspection, and management of environmental equipment (dust collectors, particulate smoke removal devices, and wastewater treatment equipment)	
work areas	Global environmental preservation expenses	168	Energy conservation equipment (adoption of inverters for motors, illumination, air conditioning), etc.	106	Equipment cost for equipment converted for use with invertors (motors, illumination, air conditioning)	
	Resource recycling expenses	62	Grinding swarf briquetting machine, recycling of waste, equipment to reduce waste	522	Equipment cost related to the grinding swarf briquetting machine, waste material recycling/reduction measures, general and industrial waste treatment	
Upstream / downst	ream costs	0		0.1	Costs for green procurement documents	
Costs for managem	ent activities	38	Devices for monitoring and measuring environmental impact	358	Labor cost for the EMS and information disclosure (advertising, CSR reports), greening and beautification of company grounds	
R&D costs		1,109	R&D equipment related to environmental preservation	1,814	R&D costs related to environmental preservation	
Costs for social act	ivities	0		5	Greening and beautification outside the company	
Environmental remediation expenses		0		114	Costs for soil sampling	
Total		1,427		3,047		
(For reference) Total from last fiscal year		1,412		3,163		

Impact on environmental preservation

Indicator	Result for fiscal 2007	
CO ₂ emissions rate	22.0% reduction over fiscal 1997	
Reduction of waste	Recycle rate: 98.4%	
Reduction in paper purchases	35.2% reduction over fiscal 1998	
Reduction in Styrofoam purchases	84.5% reduction over fiscal 1999	

Financial effect of environmental preservation activities

		(Million yen/year)
Item	Amount	Details of fiscal 2007
Profit from recycling saleable materials	368	Profit from saleable materials such as metallic sludge
Reduced costs from energy conservation	142	Reduced costs from energy conservation (air conditioning, illumination)
Reduced waste treatment costs through resource conservation and recycling	363	Benefit of installing grinding swarf briquetting machine
Total	873	
(For reference) Total from last fiscal year	476	

Environmental communications

An internal presentation to raise environmental awareness

Environmental education at the NTN Group is specific to each worker's department and position. We constantly work to enrich our programs.

In fiscal 2007, we held meetings to promote our green procurement measures. Internally, we provided training to our employees for measures to prevent inclusion of environmentally

hazardous substances. We also had our managers attend an internal presentation on the topic "The Global Environment Problem and Corporate Social Responsibility" given by environmental

journalist Junko Edahiro. The presentation

was recorded so that it could be seen

at other NTN operating sites as well.



Presentation given by environmental journalist Junko Edahiro

Okayama Works Listening to local residents and working to maintain the residential environment

In July 2007, Okayama Works received complaints of noise from local residents.

This was immediately investigated and it was found that one of the water-cooled chillers (a device that prevents the compressor temperature from rising excessively) had malfunctioned, leading to noise. That same day, the machine

was stopped and repaired.

We were able to gain the understanding of the residents through this immediate response.



The water-cooled chillers for the compressor at Okayama Works



Iwata Works A plant tour for the family

In fiscal 2006, Iwata Works received the Governor's Award as the "company demonstrating excellence in promoting appropriate treatment of industrial waste" from the Shizuoka Industrial Waste Association. Every August, this association holds a family tour of the environmental facilities of a company or plant in Shizuoka and Iwata Works offered this tour in 2007.

In August 2007, 42 elementary school students and their parents from Fukoroi City and seven officials from the Shizuoka Prefecture Environmental Protection Division's Recycling Department, Fukuroi City Hall, and the Shizuoka Industrial Waste Association – a total of 49 persons – participated in the tour of Iwata Works. They saw the manufacturing line in the ball bearing plant, a dynamic display showing how a constant velocity joint works, seismic isolation devices in the R&D center, and the waste storage area. They also got a better understanding of our company's environmental preservation activities from the recycled items and product samples on display in the interpretation area.

We hope to continue these types of tours with local residents so that they can get a better understanding of NTN's environmentally friendly products and environmental efforts.



Family plant tour

NTN OMAEZAKI Corp. Employee volunteers help plant and care for flowers in the park

In fiscal 2007, 16 employees from NTN OMAEZAKI Corp. (Omaezaki City, Shizuoka) planted flowers in the flower beds in Yachiyo Park, located beside Omaezaki City Hall.

They received professional advice, created a layout for the flower beds and selected the flowers. In June, they planted over 500 flowers and improved the site. They continue to remove weeds and replant flowers. In addition to

the cleaning activity around the site that is an ongoing activity, we will continue to maintain these flower beds.



Employees who participated in planting and caring for the flowers

NTN KONGO Corp. NTN exhibits at environmental forum held by residents' group

NTN KONGO Corp. participated again this year with a display at the "6th Environmental Forum" held by the Kawachinagano Resident's Association in Kawachinagano City, Osaka.

Following this year's theme, "Oh, no! Global warming isn't stopping," local residents, government agencies, and companies got together as exhibitors and spectators to consider what can be done to prevent global warming. Everyone presented what they were doing and exchanged opinions each other.

The NTN booth featured products that help reduce environmental impact as well as the facility's environmental conservation activities. A large number of children and students came to look at the exhibit and we saw some children furiously taking notes to do their summer projects on "Bearings and the Environment."



Kawachinagano Environmental Forum

Nagano Works Donation of funds for the upkeep of trees and trails in the Kayano Highlands

Nagano Works donated funds to help Minowa Town, located in Ina County, Nagano, with the maintenance of trees and trails. A "Mountain-opening ceremony" in April 2007 in the presence of town residents commemorated the agreement.

In addition to in environmental activities related to Tenryu River (river clean-up and water quality measurements), Nagano Works has participated in Nagano Prefecture's "Adopt-a-Forest" program as part of its greening activities. We hope that the areas maintained in this newest initiative will be enjoyed by local residents as well as by our employees and their families as a place to commune with nature, learn from it, and get and keep fit.

Column

Showcasing our corporate stance toward preserving the environment

In fiscal 2007, with a theme of "Ecology blue," NTN took out a series of corporate ads in national newspapers. Photographs and statements of the famous underwater photographer Ikuo Nakamura showcased our desire to pass on the beauty of nature to future generations.

Targets and Results

Working toward achieving environmental targets in three areas



Newly established reduction targets for total CO₂ emissions

The NTN Group has environmental targets that we are working to achieve by fiscal 2010 in three areas: preservation of the global environment, creating a recycling society, and maintaining and improving the environmental management system. These targets were set in fiscal 1998, and since then, we have been methodically carrying out environmental activities.

Our results with respect to our fiscal 2007 targets is

shown below. Of the 17 targets that we had for fiscal 2007, we achieved 11 of them and failed to achieve 6 of them.

In terms of reducing our CO2 emissions, we have reduced our CO₂ emissions rate (our CO₂ emissions per unit of value-added production) by 22% over fiscal 1997 levels. Our North American operating sites contributed greatly, achieving a significant reduction over 9.2%, exceeding our target. Also, our total emissions of CO2 in Japan were 240,000 tons/year (at the 10 original operating sites), and we were able to achieve our target. However, the four new operating sites that

Ochieved/In progress Not achieved

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	Purpose		Target	Result	Evaluation		
Tent			·Reduce CO ₂ emissions rate ^{*1} by 22% over fiscal 1997 ·CO ₂ emissions: 261,000 tons/year ^{*2} (10 original operating sites ^{*3})	 Reduced CO₂ emissions rate by 22.0% over fiscal 1997 CO₂ emissions: 240,000 tons/year (10 original operating sites) 353,000 tons/year (14 operating sites)²⁴ 	0		
Preservation of the global environment	Reduce CO ₂ emissions		•Expand energy conservation assessments (promote large-scale energy conservation improvements and horizontal implementation at overseas sites) •NEDO energy conservation assessment at NTN Mie Corp	-Energy conservation improvements at Kuwana Works and NTN Casting -Energy conservation assessments and improvements carried out in NTN Mie -Results have been attained at other operating sites	0		
oba			·Totally and methodically eliminate air leaks	·Company wide air-leak checks were done using air leak detectors	\odot		
e gl		Overseas	·Reduce CO ₂ emissions rate by 1% over fiscal 2006	·Reduced CO2 emissions rate by 9.2% over fiscal 2006	\odot		
n of th	Reduce air, water, and	Domestic	$\cdot Replaced$ 116 halon fire extinguishers with CO2 fire extinguishers (with 231 units remaining at the end of the fiscal year)	·Replace 112 halon fire extinguishers with CO ₂ fire extinguishers (with 235 units remaining at the end of the fiscal year)	\bigcirc		
rvatio	ground pollution	Domestic	·Reduce the use of substances designated by PRTR law Carry out trials and establish a long-term plan	·Established a plan to reduce substances designated by PRTR law ·Carry out trial changes at Iwata, Nagano, and Omaezaki	\odot		
Preser	Participate in local environmental activities	Domestic	·Participate in local greening activities (company-wide)	•This was carried out at sites including Kuwana, Iwata, Okayama, Nagano, and Mikumo •"Kigyo no mori" (corporate forest stewardship) activities are being considered bythe primary operating sites	0		
society	Reduce waste materials	Domestic	Work towards achieving zero emissions with a recycle rate of 99% (Both Mikumo and Casting improved their recycle rates)	Worked towards achieving zero emissions with a recycle rate of 98.5% (Mikumo achieved its goals, while Casting did not)	6		
a recycling society		Overseas	Work towards achieving zero emissions with a recycle rate of 94% (The North American sites and NMT improved their recycle rates)	Worked towards achieving zero emissions with a recycle rate of 92.8% (NMT achieved large-sale improvements, while some North American sites did not reach their goals)	$\overline{\bigcirc}$		
g	Preserve resources	Domestic	·Reduce paper consumption by 39% over fiscal 1998	·Reduced paper consumption by 35.2% over fiscal 1998	\bigcirc		
Creating		Domestic	·Reduce styrofoam usage by 90% over fiscal 1999	·Reduced styrofoam usage by 84.5% (NTN Engineering Plastics achieved their goal, while Iwata, Omaezaki, and Mie did not)	6		
system	Internal systems	Domestic	·Have Fukuroi and Kinan join ISO14001 multi-site certification ·To have Kamiina and Bizen obtain simplified environmental certification	·Fukuroi and Kinan successfully joined ISO multi-site certification ·Kamiina obtained Eco-action 21 certification and Bizen obtained EcoStage 1 certification	0		
proving ment :		Overseas	·To have NNTC and NTK obtain ISO14001 certification	•NNTC obtained ISO14001 certification •NTK is expected to obtain certification in May 2008	0		
ng and improving tal management system	Promote green procurement	Domestic	Work to completely eliminate environmentally hazardous substances from products other than those fail under EU regulations (RoHS and ELV) ·Implement the NTN Green Procurement Standard	-Carried out internal and external meetings	0		
nen			·Be responsive to customer audits	·Passed customer audits	\odot		
Maintaining a	Encourage suppliers and vendors to implement environmental management systems	Domestic	•Encourage suppliers to obtain certification such as ISO14001; achieve 86% certification acquisition	•Encouraged suppliers to obtain certification such as ISO14001 and to achieve 85% certification acquisition	6		
the e	Comply with new regulations	Domestic	·Comply with the amended Act on the Rational Use of Energy (Have logistics companies establish a reduction plan)	·Enacted a reduction plan, which we are currently carrying out	\odot		
*1 CO	*1 CO ₂ emissions rate (tons/1 million yen) = $\frac{CO_2 \text{ emissions(tons)}}{Value-added production(1 million yen)}$ Value-added production is the production output minus the proportional cost.						

2007 Environmental results

*2 The CO2 emission factor was calculated at (0.381kg CO2/kWh) for all companies

*3 This does not include operating sites that joined our multi-site ISO14001 certification in 2003 or after, which are NTN Casting Corp., NTN Omaezaki Corp., NTN Mie Corp., and NTN Fukuroi Corp. *4 Calculated with the emission factors from each power company in fiscal 2006.

joined our multi-site ISO14001 certification since 2003 were not included in the initial target, and the total emissions for the 14 operating sites including these four was 353,000 tons.

Since 2008, to work as an industry leader towards preventing global warming, we set a total reduction target for our Japanese sites including new operating sites. Our fiscal 2008 target was to limit CO₂ emissions to 352,000 tons or less. This is the same level as the 353,000 tons that our 14 operating sites emitted, but because we expect large increases in production volume (mostly at our new operating sites), this is a truly challenging target for us. We are also planning more emissions reductions – fundamental ones – starting in fiscal 2008. Though our total emissions in Japan for 2010 was initially projected to be more than 400,000 tons, we have established a plan to cut this to 10% below the fiscal 2007 level, or 317,000 tons. (The 2010 emissions rate is based on each power company's emission factor target for that fiscal year.)

In addition, in fiscal 2008 we added other targets related to reducing the use of substances designated by PRTR law, implementing internal audits related to the management of environmentally hazardous materials, and thoroughly establishing bearing inspections. We are also working to reduce the use of harmful chemicals in our manufacturing processes and to prevent the mingling of environmentally hazardous substances in our products.

In these ways, the NTN Group is working to help preserve the global environment by bolstering our efforts at each operating site and by improving environmental activities as a single supply chain including our suppliers.

	Purpose	-	Target for fiscal 2008	Target for fiscal 2010			
ient	Reduce CO ₂ emissions	Domestic	•Achieve total CO ₂ emissions 352,000 tons/year or less (14 operating sites) •Reduce CO ₂ emissions rate by 23% over fiscal 1997 (10 operating sites)	•Achieve total CO ₂ emissions 317,000 tons/year ⁴⁵ or less (14 operating sites) (A 10% reduction over fiscal 2007) •Reduce CO ₂ emissions rate by 25% over fiscal 1997 (10 operating sites)			
n of		Overseas	·Reduce CO ₂ emissions rate by 13% over fiscal 2006	·Reduce CO ₂ emissions rate by 15% over fiscal 2006			
Preservation of global environment	Reduce air, water, and ground pollution	Domestic	•Replace 99 halon fire extinguishers with CO ₂ fire extinguishers (with 136 units remaining at the end of the fiscal year 2008)	Completely phase out halon fire extinguishers			
Pre the glc	ground pollution		•Reduce the use of PRTR law-designated substances by 33.5% over fiscal 2006	•Reduce the use of PRTR law-designated substances by 40% over fiscal 2006			
	Participate in local environmental activities	Domestic	·Promote local greening activities (e.g. "Kigyo no mori" (corporate forest stewardship) activities)	·Continue current activities			
aty	Reduce waste materials	Domestic	Work towards achieving zero emissions with a recycle rate of 99%	·Maintain zero emissions			
ig socie			·Reduce landfilled amount to 43 tons/month	·Reduce landfilled amount to 25 tons/month			
Creating recycling society		Overseas	Work toward achieving zero emissions with a recycle rate of 96.3%	•Achieve zero emissions with a recycle rate of 98%			
arec	Preserve resources	Domestic	·Reduce paper consumption by 42.4% over fiscal 1998	·Reduce paper consumption by 50% over fiscal 1998			
	Preserve resources	Domestic	·Reduce styrofoam usage by 88.4% over fiscal 1999	·Completely phase out styrofoam			
E	Internal systems	Domestic	Develop a structure to have new operating sites obtain certification	·Have all operating sites around the world obtain ISO14001 certification			
/ster		Overseas	·Have NTN-RAB and NTK obtain ISO14001 certification				
Maintaining and improving vironmental management system	Promote green procurement	Domestic	 Inform everyone concerned inside and outside the company of our Green Procurement Standard Carry out internal audits related to the management of environmentally hazardous substances Thoroughly establish the practice of carrying out incoming inspections using analytical devices Thoroughly establish the management of inventory containing environmentally hazardous substances 100% pass of all customer audits 	_			
Maintaining the environmental	Encourage suppliers and vendors to implement environmental management systems	Domestic	•Encourage suppliers to obtain certification such as ISO14001; achieve 86% certification acquisition	•Have all suppliers have some kind of environmental certification			
	Comply with new regulations	Domestic	·Totally comply with REACH regulations (pre-registration)	-			

Fiscal 2008 environmental targets

*5 Calculated based on each power company's target emission factors for fiscal 2010.

Input&Output

Reducing environmental impact over a product's entire lifecycle



Business activities and environmental impact

Understanding and reducing our environmental impact

Our company has a comprehensive picture of the inputs of raw materials, energy, and water as well as our environmental impact (output), and we are working to reduce the latter through the entire product lifecycle.

The purchase of raw materials (steel and non-ferrous material) by our domestic sites in fiscal 2007 was 398,000 tons, an increase of about 8.2% over last year because of the increase in production volume. Also, because recycling of waste sand and slag generated by our casting processes did not go as well as expected, the waste disposal amount increased about 200 tons from last year.



Preserving the Global Environment

Promoting energy conservation in Japan and around the world



A new indicator to track and control "total emissions"

We set two goals for fiscal 2007 at the 10 original domestic operating sites: achieving a 22% reduction in CO₂ emissions rate over fiscal 1997 and achieving total emissions of 261,000 tons or less. Through efforts to reduce our energy consumption, we achieved both of these goals, with a 22.0% and a 240,000 ton reduction respectively (calculated with a CO₂ emission factor of 0.381 kg CO₂/kWh in electricity). If we include the emissions from the four additional operating sites that we have incorporated into the ISO14001 multi-site certification since 2003, our total emissions were 353,000 tons based on the various power companies' emission factors in fiscal 2006.

In April 2005, the NTN Group set itself the goal of reducing CO₂ emissions rate by 25% over fiscal 1997 by 2010, a target far above the domestic industry target, which was a 13% reduction. We have been working toward this target ever since. Upon further consideration of the crises associated with recent global warming trends, we have set ourselves the more concrete target of reducing total CO₂ emissions including those from new operating sites to 317,000 tons or less by 2010^{*}. This move to control total



* Presumed emissions when any measures are not taken.

For reference: Change in CO₂ emissions rate (for the original 10 operating sites) (tons/million yen)

1.78 1.77 1.70 1.58 1.64 1.54 1.48 1.4	7 1.47	1.44 1.38
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1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 **2007** (Fiscal year)

<Calculated based on a constant CO2 emission factor of 0.381kg/kWh>

emissions is in response to an increased awareness of energy conservation around the world and the realization that demand for bearings, which contribute to energy conservation, will continue increase, causing our group's bearing production volume and CO₂ emissions to increase yearly.

As for our overseas operating sites, progress with our emissions rate reduction initiatives at our North American operating sites have been significant. A target of a 1% reduction over fiscal 2006 led to an actual reduction of 7.3%. We will continue working to enhance our CO₂ reduction efforts to achieve our fiscal 2010 target.

* 317,000 tons: Calculated based on the fiscal 2010 target emission factors from the various power companies.

Energy conservation efforts underway at each operating site

Our company has been receiving ongoing "energy conservation assessments" under a grant from the New Energy and Industrial Technology Development Organization (NEDO) in order to have energy experts point out problems and to propose fundamental countermeasures to reduce CO₂ emissions. We have created an energy conservation plan based on the results of these assessments and we have made large energy conservation investments. The energy conservation evaluations ended for the nine main sites with an assessment at NTN MIE Corp. in fiscal 2007.

In terms of the results of our energy conservation efforts, the mercury lights in Kuwana Works' heat treatment plant were replaced with high-efficiency metal hydride lamps, resulting in a reduction of 185 tons of CO₂ per year. At NTN Casting Corp., lighting fixtures were converted to high-efficiency metal hydride lamps and inverter-based fluorescent lights; in addition, the compressors here were changed to high-efficiency compressors, resulting in dramatic energy savings. We expect a yearly reduction in CO₂ of 690 tons from these equipment changes.

We have also introduced the newest air leak detectors to intensify our efforts to eliminate air leaks from the pneumatic systems at all of our operating sites. We have achieved significant results by actively using these detectors (See p. 43).

CO₂ emissions by power source



Preserving the Global Environment



Going forward with a modal shift in our logistics

99% of NTN Group products are transported by truck, and logistics companies handle all of this cargo. Our annual product output is 90 million ton-km, meaning that we fall under the requirements for "Designated Consigners," which are large consigners that ship 30 million ton-km of cargo a year; we are thus required to achieve an average reduction of 1% in CO₂ emissions rate per year in the medium term.

Since 1998, the NTN Group has been committed to achieving the following goal by fiscal 2010: to reduce the CO₂ emissions rate for logistics to 12% over fiscal 1998.

In addition, we have been working on a modal shift to rail and ship transport, which both have less of an environmental impact. In fiscal 2007, we switched our long-distance transport routes joining Hokkaido to the Kanto region to rail transport, and we started using ferries to transport the high-volume transportation of heavy products.



Reducing the use of hazardous chemicals

Reducing the use of PRTR-designated chemicals

We will ensure that quality is not affected as we reduce usage

In order to reduce the use of hazardous chemicals designated by the PRTR law, the NTN Group selected eight substances that are used in large quantities in our production processes and we established a plan to reduce their use. Our target for fiscal 2008 is to reduce the use of these substances by 33.5% over fiscal 2006. Our target for fiscal 2010 is a 40% reduction over fiscal 2006.

Targeted substances used in large quantities by the NTN group include the amine-based additives found in machining fluids and rust-proofing agents. We have already selected alternative agents for these substances, but because of the large number of products that are tied directly to safety such as automobiles, we plan to methodically carry out these changes making sure as we do so that we do not affect quality.

* PRTR Law: A law that requires companies to measure and report the emission and transfer of designated chemicals.

Total phase-out of halon fire extinguishers

Making certain progress towards total phase-out

The halon fire extinguishers used in special areas such as electrical equipment contains brominated fluorocarbons that destroy the ozone layer. There are no legal restrictions on their use, but NTN has voluntarily committed to phase out their use by 2010.

In fiscal 2007, we changed 112 units with 235 units remaining. In fiscal 2008, we plan to change 99 units.

Column

Checking for air leaks and repairing them

An average of about 30% of a company's electrical power is used by the compressors used to create compressed air; 30% of this (approximately 10% of total electrical power usage) is lost to air leaks. This is why in fiscal 2007, NTN purchased the newest air leak detectors for our primary operating sites, and we are methodically carrying out checks for air leaks and making repairs, and we are doing this even in areas that are difficult to reach.

We are working to dispel the preconceived notion that "air and water are free" through initiatives to increase worker awareness such as indicating the volume of air and money lost at actual air leak locations.



Creating a Recycling Society

Working to realize a recycling society



In fiscal 2007, we achieved zero emissions with a recycle rate of 98.5%

The NTN Group defines zero emissions as putting no more than 2% of our total waste in the landfill, and in fiscal 2006, we achieved this in Japan.

We also achieved this in fiscal 2007. However, one of our ongoing issues is how to raise the recycle rate for the waste sand and slag generated by our casting processes. We will continue to work to maintain our zero-emission status and raise our recycle rate through initiatives such as using waste sand in road paving.

Additionally, we sell our grinding swarf briquetting machine, which helps us greatly in raising our recycle rate, outside the company, and it is helping machine part



manufacturers and automobile manufacturers achieve zero emissions.

A 20% increase in recycle rate at NMT (Thailand)

At NTN MANUFACTURING (THAILAND) CO., LTD. (NMT), we were able to raise the recycle rate from 69.3% in fiscal 2006 to a 92.8% in fiscal 2007. A 20% increase was achieved just by collecting and recycling oily rags and waste plastic that used to go to the landfill.

We will continue to work to increase the recycle rate at NMT.

Reducing the use of packaging

Achieved 99% recovery of product containers from customers

The NTN Group keeps track of the total number of the wooden pallets, steel box pallets, and containers used for transporting and storing products that are shipped to customers, and we work hard to recover all of them.

The container collection rate for fiscal 2007 was 99%, which is a 1% increase from the previous year. We have also been able to decrease the amount of new containers that we purchase.

However, we still have room for improvement when we look at our entire supply chain including secondary and tertiary retail stores, so we will continue working towards 100% recovery with the cooperation of customers and logistics companies.

Column

Development of the newest model of our grinding swarf briquetting machine

The grinding swarf briquetting machine that we developed currently contributes greatly to recycling both inside and outside the company. This machine works by separating the metal particles in the grinding swarf from the liquid inside, allowing the metal to be recycled as a raw material for steel. The liquid that is squeezed out can be reused on the grinding line. Since we developed it in 2002, we have promoted the use of this machine inside and outside the company, and we have also sold a total of these 76 machines to other companies.

In November 2007, we started production of the new model, which we have designed to be smaller and lower in cost. This product has allowed us to increase our demand base, so we expect it to be used in even more production facilities.



Reducing the Environmental Impact of our Supply Chain

Promoting environmental management at suppliers

Promoting awareness at our suppliers

Encouraging suppliers to obtain environmental management system certification

We have made a request to our primary suppliers to obtain environmental management system (EMS) certification such as ISO14001 or its simplified version Ecostage*¹.

In fiscal 2007, 12 more suppliers obtained environmental management certification. This means that 85% of our 281 primary suppliers have obtained certification. We have visited each supplier without any plans to obtain certification to tell them about Ecostage certification and its simplified version to them, the "EcoStage entry version*2" and to ask them to obtain certification. We even have a system in which some of our ex-employees act as consultants to help companies to obtain certification.

In these ways, NTN is helping suppliers obtain EMS certification to promote environmental management over our entire supply chain.

The NTN Group is promoting the Household Eco-Account Book (see p. 14) within the group; we also give this booklet to suppliers who request it so their employees' households can also carry out these practices.

- *1 EcoStage: The environmental management system of the EcoStage Institute.
- *2 EcoStage entry version: NTN proposed this EMS to the EcoStage Institute for small companies with up to 15 employees. It was adopted as a trial certification level in 2004.



Encourages suppliers to obtain EcoStage certification



NTN distributes the "NTN green procurement standard" and calls on suppliers to keep out environmentally hazardous substances

To prevent the entry of environmentally hazardous substances in our products, we distribute the "NTN Green Procurement Standard" both within and outside the company, and we constantly call on suppliers to thoroughly comply with it.

This standard requests that all suppliers create an environmental management system and to manage and reduce environmentally hazardous substances. Also, for prohibited substances, which are particularly critical, we make requests to suppliers to submit "voluntary check-sheets for management structures related to environmentally hazardous substances," inspection records, and analysis data.

In December 2007, we held a green procurement meeting to obtain understanding and cooperation from our primary suppliers regarding our procurement policies.

Additionally, to thoroughly establish green procurement standards within the company, we use education and training sessions to notify associated employees about management standards for environmentally hazardous substances at suppliers and about requests that have been made to suppliers.

We plan to continue working to thoroughly establish our green procurement standard both within and outside the company.



Supplier meeting

Column NTN received the "Osaka Environment Prize / Incentive Prize"

In June 2007, NTN received the "2007 Osaka Environment Prize" / Incentive Prize" administered by the Osaka prefectural government. This prize was awarded for promoting environmental management by suppliers, for helping to make third-party certification realistic for small companies through the "EcoStage entry version" as well as for supporting the creation and certification of environmental management systems in a practical manner. We will continue to support activities in order to fully realize environmental management

at the NTN Group and at suppliers.

* Osaka Environment Prize: A prize awarded to recognize individuals, groups, and companies for distinguished achievement and for setting an example in environmental conservation and creative activity.





Strengthened our receiving inspection system

In order to establish thorough management over environmentally hazardous substances, we work hard to strengthen our receiving inspection system. In fiscal 2007, we expanded the capabilities of the fluorescent X-ray analysis unit and we introduced a similar unit for the main operating site.

As our suppliers strengthen their management of environmentally hazardous substances in accordance with the Green Procurement Standard, we are reinforcing our analysis capabilities to have a thorough system in place to prevent environmentally hazardous substances from entering our products.

Working to be REACH compliant

In June 2007, a regulation known as REACH was put into force in the European Union (EU). This regulation requires manufacturers and importers to register and carry out safety evaluations on all chemicals used within the EU. It came into effect in June 2008.

In fiscal 2007, the NTN Group, focusing mainly on European sites, determined all of the materials, parts, and process substances purchased for our production processes as well as the products that we provide customers for which registration is necessary. We also obtained the assistance of raw material manufacturers to create a pre-registration plan. In order to achieve total compliance with this regulation, we will continue to work together with our raw material manufacturers to address all issues related to compliance.



The fluorescent X-ray analysis unit



Responding proactively with customer audits – excellent audit results

We proactively cooperate with audits related to environmentally hazardous substances that are carried out by customers. In fiscal 2007, we were audited by seven customers.

An example of this is the audit of our Nagano Works by FUJITSU LIMITED in May and August 2007. The result was 100% compliance, and we received the comment that "everything from the raw material procurement stage was free of environmentally hazardous substances, and there is no risk of these substances entering the manufacturing processes."

We will continue to work to thoroughly control environmentally hazardous substances and to intensify our management system.

Column The "2nd annual NTN Environmental Grand Prize" ceremony

Our company established the "NTN Environmental Grand Prize" in order to recognize suppliers and internal departments that have been active in their environmental preservation activities. In July 2007, we held the second annual ceremony to recognize companies that have actively engaged in acquiring ISO14001 or EcoStage certification, and we recognized four companies that have achieved significant results.

We also recognized the departments of head office that have been contributing to society by doing early-morning cleaning of the walkways around the operating site for over a year.

Supplier / NTN department	Location	Reason		
Nakatsuji Iron Works Co., Ltd.	Sakai, Osaka Prefecture	Passionate about environmental management, and despite their small size, obtained ISO14001 certification.		
Sonoda Seisakusho	Amagasaki, Hyogo Prefecture	Obtained EcoStage certification and is actively carrying		
Futaba Koken	Hamamatsu, Shizuoka Prefecture	out environmental management.		
Isobe Seiko	Hamamatsu, Shizuoka Prefecture	Obtained the EcoStage entry version No. 1.		
NTN Head Office	Osaka	Carried out monthly early-morning clean-ups of the walkways along Yotsubashi-suji Street.		



Developing Environmentally Friendly Products

Making eco-friendly products even more eco-friendly



Working on products that last longer, weigh less, and have less friction and loss

Our primary products, which include our bearings and constant velocity joints, reduce energy losses caused by friction, and as such can be considered environmentally friendly products. However, the status quo is not something that NTN has ever been satisfied with. In order to contribute even more to energy conservation, we have continued to research how to make products last longer, weigh less, and have less friction and loss. About 60% of our new product development theme in fiscal 2006 and 2007 was eco-friendly products.

[Our main R&D accomplishments with our primary products]

Longer life In the FA tapered roller bearing, we used a special heat treatment called FA (fine austenite) strengthening to reduce the grain size of bearing steel in order to increase its rolling fatigue life.

Reduced weight Ultra-light hub bearing used for improved fuel economy in light motor vehicles and compact vehicles with 1,000cc-class engines.

Lower torque and friction

Our ultra-low-torque tapered roller bearing has an improved bearing cage that reduces rotation torque with reducing oil agitation resistance.





Less loss The number of balls that transfer torque was increased from six to eight, resulting in the EBJ, EUJ, and EDJ constant velocity joints with reduced torque-losses.





The first product to use biodegradable products in the industry

In fiscal 2007, we brought constant velocity joint technology together with hub bearing technology and used press-cut joining, a new joining method, to develop the V-series all-in-one type hub joint.

The V-series hub joint is 12% lighter than conventional products, and we have two types available to our customers to suit their needs: the all-in-one type and the detachable type.





all-in-one type

detachable type

In addition, we developed the "environmentally friendly rolling bearing," the first in the industry, which uses biodegradable materials for the cage, seal, and grease.

When this product is discarded and landfilled, it will be broken down by microorganisms in the soil. Even if it is incinerated, it will not emit NOx and SOx, which are atmospheric pollutants. It is truly an alternative that contributes to conserving the global environment.



Column Our R&D themes going forward

Our company is engaged in research and development to address the environmental problems of today as a top-priority issue.

In the automotive field, we are responding to the needs associated with low-fuel consumption and with the next generation of vehicles such as electric vehicles. In the industrial machine field, we are developing products suited to current engineering trends such as the use of natural energy such as wind power generation and the modal shift to rail transport, which has excellent freight efficiency.

We have a long-term focus towards developing the technological basis for these products, such as lubrication, surface reforming, and materials.

Hybrid power generator at NTN Mie Corporation's Plant No. 2



Third-party Opinions

NTN Corporation's CSR Report: A third-party opinion

Junko Edahiro

The CSR report of NTN Corporation was earnest and solid, just like last year's report. Bearings are not something that most people see every day, but explaining in the introduction what kind of role you fill in society – how you are reducing energy losses and protecting the global environment through Tribology – is an excellent approach. The reader can see the role you play in energy conservation, in rail transport, and in wind power generation.

I was impressed with the message from NTN Top Management as well. The ideas of creating a bearing with light and wind and universal perspective express what NTN executives are thinking and what they are trying to achieve.

Last year I said that I wanted you to express your CO₂ reduction targets not in emissions rate but in total emissions. You did that this year, and I thought this was a big step. Even with NTN's large increase in production resulting from the increased awareness of energy conservation around the world, your strong will to decouple the CO₂ emissions with the increased production is apparent.

I have some additional suggestions for you to step up your action.

- I encourage you to think of CSR management not just in terms of risk, compliance, and governance – that is, not harming society – but also in proactively creating value for society and encouraging positive contributions from your employees.
- 2. Generally, you have a lot of reporting of your systems and specific initiatives. However, take for example, your employee diversity or your environmental management systems – you should express why these are important to you and have a company stance that expresses what you want to achieve with these initiatives. If a company starts to think just about what's on the surface, the reason for these initiatives comes across as "we're doing it because everyone is doing it" or "we're doing it because it's right," and it is truly a lost opportunity.
- Initiatives such as opening up the external consultation desk to suppliers are excellent, but I encourage you not just to explain the system in general terms, but also to report your performance, a self-evaluation of the company, and your policies going forward.
- I encourage you to use this report not only to devise targets, introduce the initiatives to achieve the target,

and report on the results, but also to talk about initiatives to follow in order to repeat the PDCA cycle. For example, what target do you have for modal shift in the future?

- 5. I hope for more in terms of vision and long-term targets related to your global warming measures. Your current target, which is to achieve a 10% reduction over fiscal 2007 by 2010, should serve as a medium-term target underpinning your vision and long-term targets.
- 6. Your 99% product container recovery rate and your contribution to recycling in your own industry and others in the form of the grinding swarf briquetting machine are examples of some of the superb initiatives you have.

But what kind of company is NTN trying to become with these various initiatives? Japan's population is shrinking, and your current primary customers in the automobile industry are changing; what kind of role do you seek to fill? I hope that you are able to do some long-term planning for these scenarios and come up with a report that explains that your fundamental activities do deal with change.

 In order to do this, I encourage you to try co-creative communication with your stakeholders including NGOs. Changing a company requires fresh outside ideas.

I look forward to seeing your changes and progress.



Junko Edahiro

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She has a Master's degree in Educational Psychology from the University of Tokyo. Her career is multi-faceted and is focused on the environment. In addition to heading two companies as an environmental journalist, she is also an author, speaker, translator, and runs an environmental NGO.

She has made waves by informing people and connecting them to each other while also researching systems to change behaviors. Her numerous books include "Anything Is Possible If You Wake Up at 2 A.M.," "What I can Do for the Earth," "How to Fix the Earth," and "Escaping the Energy Crisis." Her translations include "An Inconvenient Truth," "The Limits to Growth," and "CO₂ Diet."







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