



Winning piece of work for the "Photograph competition addressing the theme of employees' environmental awareness" (Thai Operations)



Minebea Group Environmental Report

2008 Year Ended March 31, 2008

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# CORPORATE INFORMATION

#### Minebea Co., Ltd.

#### **Date of Establishment**

July 16, 1951 Capital

**Electronic Devices** 

and Components

¥68,258 million (As of March 31, 2008)

Net Sales (Year ended March 31, 2008) Consolidated: ¥334,431 million ¥225,071 million Nonconsolidated:

# **Consolidated Net Sales to External Customers**

by Business Segment (Year ended March 31, 2008)

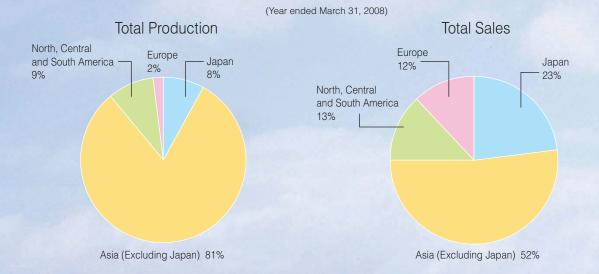
Machined Components ¥144,034 million (43% of total) ¥190,396 million (57% of total)

<b>Operating Income</b> (Year	ended March 31, 2008)
Consolidated:	¥30,762 million
Nonconsolidated:	¥6,630 million
Ordinary Income (Year e	ended March 31, 2008)
Consolidated:	¥27,691 million
Nonconsolidated:	¥12,265 million
Net Income (Year ended M	1arch 31, 2008)
Consolidated:	¥16,303 million
Nonconsolidated:	¥4,304 million
Number of employees	(As of March 31, 2008)
Consolidated:	50.549

Nonconsolidated:

2,605

# **Consolidated Total Production and Total Sales by Region**



#### MACHINED COMPONENTS

#### **Bearings and Bearing-Related Products**

Miniature ball bearings Small-sized ball bearings Integrated-shaft ball bearings Rod-end bearings Spherical bearings Roller bearings Bushing Pivot assemblies Tape guides

#### Other Machined Components Fasteners Special machined components Magnetic clutches and brakes

# ELECTRONIC DEVICES AND COMPONENTS

Rotary Components Hard disc drive (HDD) spindle motors Fan motors Hybrid-type stepping motors Permanent magnet (PM)-type stepping motors Brush DC motors Vibration motors Variable reluctance (VR) resolvers Other Electronic Devices and Components Personal computer (PC) keyboards Speakers Electronic devices Color wheels Lighting devices for liquid crystal displays (LCDs) Backlight inverters Heat management system modules Measuring components Strain gauges Load cells

# EDITORIAL OBJECTIVES

- The objective of this report is to present the environmental efforts of Minebea Co., Ltd., and the companies of the Minebea Group to readers worldwide.
- This report has been prepared using the Japanese Ministry of the Environment's Environmental Reporting Guidelines (fiscal 2007 version) as a reference.
- Industry terms and other potentially unfamiliar terms are explained on the page on which they first appear.

The following table indicates sections required under the Japanese Ministry of the Environment's *Environmental Reporting Guidelines* (fiscal 2007 version) (unofficial translation) and the page(s) in this report where corresponding sections may be found.

Guidelines	Page(s)
1. Basic Headings	
1. CEO's statement (Overall summary, commitments to society)	2-3
2. Basis of reporting (Reporting organization, period, fields)	4
3. Summary of nature of business	Inside front cover
4. Summary of environmental reports	10-12
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2. Environmental Management	
1. Environmental management	5
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4. Environment-conscious loans and investments	-
5. Supply chain management	16
6. Green purchase/procurement	16
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8. Environment-conscious transport/shipping	17
9. Preservation of biodiversity and sustainable use of biologic resources	28
10. Environmental communications	26-27
11. Environment-related contributions to society	28-29
12. Products and services that contribute to the reduction of environmental burden	13-15
3. Activities Aimed at Reducing Environmental Burden	
1. Total energy input and mitigation efforts	7, 18-20
2. Total material input and mitigation efforts	6, 21-22
3. Water resource input and mitigation efforts	7
4. Amount of material recycled in plants	7
5. Total production or total sales volumes	Inside front cover
6. Greenhouse gas emissions and mitigation efforts	7, 18-20
7. Amount of load concerning air pollution/life environment and mitigation efforts	8, 18-22
8. Chemical substance emissions, transfer and mitigation efforts	8
9. Total industrial waste emissions, total volume of industrial waste	7, 21-22
disposed of as landfill and mitigation efforts	
10. Total wastewater emissions and mitigation efforts	6
4. Connection between Environment-friendliness and Management	11
5. Community Activities	28-29

"Kaguya", a satellite orbiting the moon is carrying out lunar exploration, which is said to be the greatest lunar exploration since Apollo space programs. Image data of the earth filmed with hi-vision camera was sent from the "Kaguya". The beautiful image, the blue earth with white clouds under the rays of the sun, mesmerized me. It seemed to me that the beautiful earth rising from the horizon of the moon was sending a message to us. We all live on the beautiful earth. And it is our responsibility to commit ourselves to preserve the beautiful earth. As environmental damage increases and need for environmental

preservation grows, I believe that all of us, as well as any organization, must develop a positive consciousness to preserve the beautiful earth.

Minebea recognizes environment protection as a key management goal. We have strived to minimize negative impact on environment through business activities for long. We have issued Environmental Reports since 2003 to disclose our activities to protect environment. This Environment Report is the sixth edition. We will continue to view environmental stewardship as an everlasting commitment and address the environmental issues based on an unwavering philosophy. We look forward to your ongoing support.



1. Yamagishi

Takayuki Yamagishi Representative Director, President and Chief Executive Officer

The epoch-making landmark agreement created during the Toyako summit that every country will cut emissions of carbon dioxide in half by the year 2050 also implies increasing seriousness of the world environment.

Minebea has tried to decrease amount of energy used as well as carbon dioxide emission from various aspects. We built a factory of ballbearing parts for cutting and heat treating process and started operation in May, 2008, which is a culmination of energysaving technologies we have accumulated. We decreased the amount of energy for utility, including energy for air conditioning, lighting, cooling water and air, by as much as 40% as planned. However, we still have much to do to save energy used during machining operation including energy for machines. Many of our products are machined while parts are cut and grinded, and we have been making thorough efforts in minimizing waste, scrap and working time in order to decrease environmental burden as well as manufacturing cost. Positive use of pipe material is an example of our efforts. Talking about consumer appetite, I believe it is difficult to appeal to customers by just releasing new products. Needs for products

to customers by just releasing new products. Needs for products that can be used safely for a long time are gradually increasing. We will devote every effort so that our components will help realize such products and will be highly praised.



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Akihiro Hirao Director Senior Managing Officer, Officer in Charge of Environmental Preservation



# **ENVIRONMENTAL PHILOSOPHY**

Established August 26, 1993 Revised July 1, 2005

Minebea strives to contribute to higher quality, more comfortable lifestyles by providing truly valuable products and services. At the same time, the Company works to minimize the environmental burden of its various activities and promote greater harmony, thereby contributing to the preservation and improvement of a healthy environment.

# **Environmental Policy**

#### 1. Development/Design

Minebea shall focus on the development and design of products that contain no chemical substances harmful to the environment or the health and safety of humans, consume little energy and satisfy the "3R" criteria, that is, can be "reduced", "reused" or "recycled."

#### 2. Manufacturing

Minebea shall set targets and restructure and revise its manufacturing procedures by using materials that contain no chemical substances harmful to the environment or the health and safety of humans, thereby improving yield, reducing waste output and lowering energy consumption.

#### 3. Distribution

Minebea shall employ packaging materials that contain no chemical substances harmful to the environment or the health and safety of humans and satisfy the "3R" criteria, as well as procedures that lower energy consumption and prevent the release of harmful substances.

#### 4. Cooperation with Authorities and Local Public Entities

When coordinating manufacturing and/or distribution activities in other countries, Minebea shall observe environment-related rules and regulations imposed by local authorities and support environmental protection efforts of local communities. At the same time, Minebea shall take a proactive approach to sharing new environmental protection technologies.

#### 5. Overseas Activities

In its manufacturing and distribution activities oversea, Minebea shall observe environment-related protection rules and regulations imposed by local authorities and do its best to preserve the environment in adjacent areas. Minebea shall also be an aggressive supplier of new environmental protection technologies.

#### 6. Environmental Audits

Minebea shall conduct periodical environmental audits at all of its production and other facilities with the aim of ensuring the effective implementation of its environmental management system and improving the system as necessary.

## 7. Employee Education

Minebea shall require employees to attend related courses to encourage their involvement in environmental protection activities in the workplace and at home.

## 8. Observe Minebea's Environmental Policy

All Minebea Group employees and other individual working at our sites shall adhere to Minebea's Environmental Policy. If any individual has an environment-related concern, he or she shall report it promptly to his or her manager, who shall respond promptly.

Takayuki Yamagishi Representative Director, President and Chief Executive Officer Minebea Co., Ltd.



 Fiscal 2008 (Year ended March 31, 2008) (Some activities that took place subsequent to March 31, 2008, are also included.)

# Manufacturing facilities

This report covers the following Minebea Group manufacturing facilities.



- · Bang Pa-in Plant
- · Lop Buri Plant

#### Malaysia

MINEBEA ELECTRONICS MOTOR (MALAYSIA) SDN. BHD.

PELMEC INDUSTRIES (PTE.) LIMITED

Recent years have seen an increase in awareness worldwide that there is no time to waste in addressing such environmental issues as global warming and the use of hazardous chemical substances. The Minebea Group has long taken an active role in efforts to resolve environmental issues. In 1993, for example, the Group eliminated specified chlorofluorocarbons from all of its production processes. This basic stance remains unchanged. The Minebea Group continues to recognize environmental protection as a top management priority. Its manufacturing facilities around the world have acquired certification under ISO 14001 and engage in a wide variety of environmental preservation activities.

#### **Environmental Management System**





Management review (Thailand)



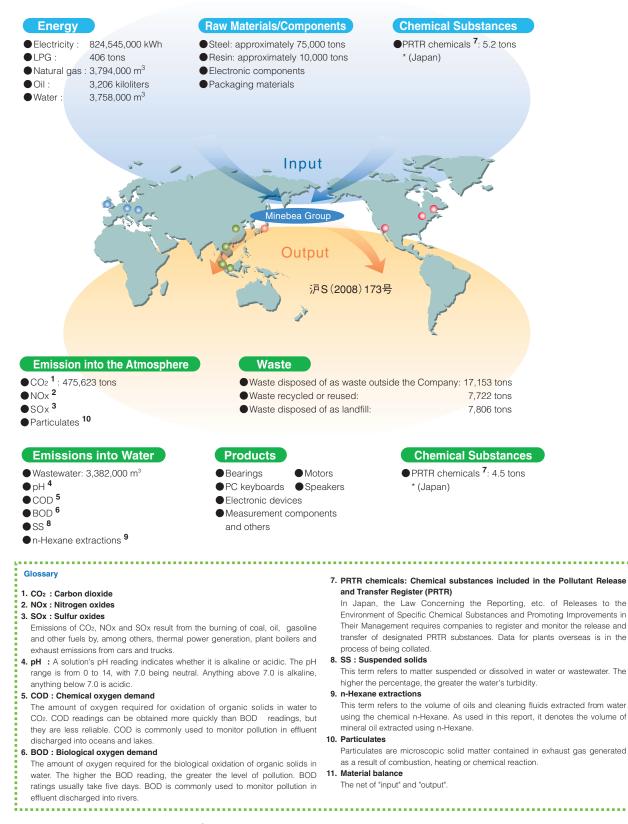
ISO 14001 certification renewal inspection (Karuizawa Plant)



Implementation of internal environmental audit (Karuizawa Plant)

Minebea's global presence currently encompasses 28 plants in 9 countries and over 40 sales offices in 13 countries, having operations in a wide-ranging field. The chart below depicts input and output from Minebea's plants in fiscal 2008.

# Input-Output Flow and Material Balance <sup>11</sup>

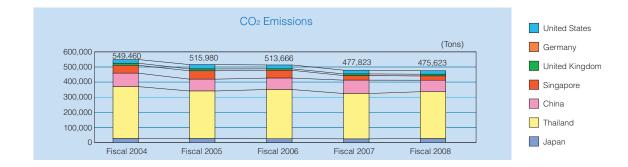


6 Minebea Group Environmental Report 2008

# Energy Consumption and Resulting CO<sub>2</sub> Emissions (Fiscal 2008)

Energy	Unit	Japan	Thailand	China	Singapore	United Kingdom	Germany	United States	Total
Electricity	1,000 kWh	45,603	568,815	94,843	56,527	18,808	2,849	37,100	824,545
Kerosene	Kiloliters	59	0	158	0	0	0	22	239
Heavy oil A	Kiloliters	937	0	0	0	0	0	274	1,211
Light oil	Kiloliters	9	815	74	205	0	0	20	1,123
Gasoline	Kiloliters	20	332	222	45	0	13	1	633
LPG	Tons	93	35	195	11	0	0	72	406
Natural gas	1,000 m <sup>3</sup>	765	2,115	0	0	140	106	668	3,794
Water	1,000 m <sup>3</sup>	196	2,465	279	208	532	2	76	3,758
CO <sub>2</sub> emissions	Tons	24,175	309,451	76.425	31,425	9,187	1,246	23.714	475.623

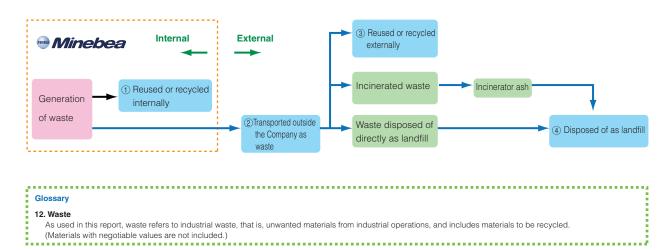
Note: In determining values for use in calculating CO<sub>2</sub> emissions at sites in Japan, Minebea referred to the Greenhouse Gas Emission Calculation Guideline for Businesses, version 2.3, published by Japan's Ministry of the Environment. In determining values for use in calculating CO<sub>2</sub> emissions overseas, Minebea referred to Greenhouse Gas (GHG) Protocol (2005) criteria.



# Waste 12

								(Tons)
Classification	Japan	Thailand	China	Singapore	United Kingdom	Germany	United States	Total
①Reused or recycled								
internally	30	177	1,949	237	5	0	34	2,432
②Transported outside								
the Company as waste	1,232	6,015	1,150	3,765	332	13	4,646	17,153
③Reused or recycled								
externally	311	1,320	0	2,486	155	12	3,438	7,722
④Disposed of as								
landfill	95	4,695	1,150	602	177	0	1,087	7,806
Nete Element for sets allowed a	at a star affil (C)	the structure states at a						

Note: Figures for waste disposed of as landfill (④) include estimates.



# Handling and Transfer of PRTR Chemicals (Japan; as reported to relevant authorities)

							(Tons)	
		Volume				Transfer	Plant	
PRTR Number	Chemical	Handled	Released into the Atmosphere	Released into Water	Landfill	Waste	гаш	
144	Dichloropentafluoropane(HCFC-225)	3.9	3.7	0	0	0.2	Karuizawa Plant	
232	Nickel compounds	1.3	0	0.03	0	0.55	Fujisawa Plant	

# Minimizing Water and Air Pollution

# **○**Concentrations in Water

#### Japan

Karuizawa Plant				(mg/liter
Item	Legal Limit	Voluntary Limit	Maximum	Average
рН	5.8-8.6	6.0-8.0	7.8	7.5
COD	30	10	5.8	3.5
BOD	30	10	5.4	2.5
SS	50	30	13.0	9.7
n-Hexane extractions	5	2	<1.0	<1.0
Fujisawa Plant				(mg/liter
Item	Legal Limit	Voluntary Limit	Maximum	Average
pН	5.8-8.6	6.6-7.8	7.6	7.3
COD	60	30	21.0	9.0
BOD	60	30	14.0	5.5
SS	90	10	6.0	2.1
n-Hexane extractions	5	2	2.0	1.3

Hamamatsu Plant				(mg/liter
Item	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.8-8.6	6.0-8.0	7.7	7.4
COD	40	20	5.3	4.5
BOD	25	20	1.2	0.7
SS	40	25	8.2	2.7
n-Hexane extractions	5	5	<1.0	<1.0

#### China

Shanghai Plant				(mg/liter)	Xicen Plant				(mg/liter
Item	Legal Limit	Voluntary Limit	Maximum	Average	Item	Legal Limit	Voluntary Limit	Maximum	Average
pН	6-9	7-8	7.7	7.5	рН	6-9	7-8	7.9	7.6
COD	60	20	18.8	14.2	COD	60	20	14.8	9.1
BOD	15	5	1.7	0.9	BOD	15	5	1.6	0.9
SS	70	10	5.6	3.9	SS	70	10	5.8	4.6
n-Hexane extractions	3	1	0.8	0.7	n-Hexane extractions	3	1	0.7	0.7

#### Thailand

			(mg/liter)
Legal Limit	Voluntary Limit	Maximum	Average
5.5-9.0	6.5-8.5	8.0	7.7
120	80	33.7	32.1
20	18	3.1	3.0
50	20	3.8	2.2
5	5	2.9	2.1
			(mg/liter)
Limit for Industrial Estate	Voluntary Limit	Maximum	Average
5.5-9.0	6.0-8.8	7.2	6.8
1250	1000	262.0	215.0
500	450	55.0	49.0
200	150	39.0	19.0
10	10	7.4	3.3
	5.5-9.0 120 20 50 5 Limit for Industrial Estate 5.5-9.0 1250 500 200	5.5-9.0         6.5-8.5           120         80           20         18           50         20           5         5           Limit for Industrial Estate         Voluntary Limit           5.5-9.0         6.0-8.8           1250         1000           500         450           200         150	5.5-9.0         6.5-8.5         8.0           120         80         33.7           20         18         3.1           50         20         3.8           5         5         2.9           Limit for Industrial Estate           Voluntary Limit         Maximum           5.5-9.0         6.0-8.8         7.2           1250         1000         262.0           500         450         55.0           200         150         39.0

Lop Buri Plant (mg/liter									
Item	Legal Limit	Voluntary Limit	Maximum	Average					
pН	5.5-9.0	6.5-8.5	7.9	7.6					
COD	120	80	73.0	49.9					
BOD	20	18	7.0	3.4					
SS	50	20	12.0	6.4					
n-Hexane extractions	5	5	1.7	1.1					
Ayutthaya Plant				(mg/liter)					
Item	Legal Limit	Voluntary Limit	Maximum	Average					
pН	5.5-9.0	6.5-8.5	7.7	7.6					
COD	120	80	34.3	27.4					
BOD	20	18	<3.0	<3.0					
SS	50	20	1.7	1.1					
n-Hexane extractions	5	5	2.8	2.0					

# **O**Concentrations in Air

Karuizawa Plant (Vacuum hot water boiler)					Hamamatsu Plant (Absorption chiller heater)						
Item	Unit	Legal Limit	Voluntary Limit	Maximum	Average	Item	Unit	Legal Limit	Voluntary Limit	Maximum	Average
Particulates	g/m <sup>3</sup> N	-	0.25	0.006	0.006	Particulates	g/m <sup>3</sup> N	0.3	0.2	<0.01	0.01
NOx	ppm	-	150	75	75	NOx	ppm	180	100	83	72.5
SOx	m <sup>3</sup> N/h	-	1	0.021	0.021	SOx	m <sup>3</sup> N/h	-	-	-	-
Fujisawa Plant (Section	nal hot wa	ter boiler)									
Item	Unit	Legal Limit	Voluntary Limit	Maximum	Average						
Particulates	g/m <sup>3</sup> N	0.3	0.25	0.01	<0.01						
NOx	ppm	180	150	85	78						
SOx	m <sup>3</sup> N/h	1.2	1	0.015	0.011						

The Minebea Group accounts for environmental protection efforts using economic indicators with the aim of ensuring its investments are both appropriate and effective. The Group's environmental accounting system is based on the Environmental Accounting Guidelines published by Japan's Ministry of the Environment.

# Scope

- Period covered: Fiscal 2008 (Year ended March 31, 2008)
- Scope of calculations: Minebea and Minebea Group (see page 4)



High-efficiency refrigerator installed in Bang Pa-in Plant (Thailand)

#### Environmental Protection Activities Costs of the Minebea Group

					(Millions of yen)
		Costs of Environm	nental Protection Activities	Total amount of covered subje	
		Category	Description	Investment	Expenses
1	Business area costs (Environmental protection costs to minimize the environmental burden resulting from manufacturing and service activities within the business area)		See specific entries for a, b and c below.	1,198	2,439
	Breakdown	a. Pollution prevention costs	Costs related to the installation, disposal, maintenance and management of facilities to prevent water and air pollution, etc.	283	729
		b. Environmental protection costs	Costs for installation of ozone-depleting substance (ODS)-free water-based cleaning facilities, high-efficiency refrigerator, depreciation, operating and maintenance costs, etc.	702	1,349
		c. Resource recycling costs	Equipment and costs for waste disposal and recycling, etc.	213	361
2	<sup>2</sup> Upstream/downstream costs (Environmental protection costs to minimize the burden of key upstream and downstream operations)		Costs related to the installation of analyzers, analysis of materials as part of the Green Procurement Program, printing and revenue stamp costs for contracts with suppliers, etc.	40	119
3	3 Administration costs (Environmental protection costs stemming from administrative activities)		Personnel, maintenance and management costs for environmental management system, etc.	7	342
4	R&D costs (Environmental protection costs stemming from R&D activities)		Costs related to the research and development of ODS-free water-based cleaning facilities, etc.	65	21
5	5 Community activity costs (Environmental protection costs stemming from community activities)		Costs related to greening programs, landscape preservation, etc.	0	9
6	6 Environmental remediation costs (Costs incurred for environmental remediation efforts)		Costs related to soil replacement and the operation, maintenance and depreciation of water-based cleaning facilities, etc.	0	71
Т	otal			1,310	3,001
Ex	Exchange rates used: US\$1.00=¥100.2; €1.00=¥158.2; 1 baht=¥3.2; 1 yuan=¥14.2; S\$1.00=¥72.6; £1.00=¥200.1				

This section focuses on Minebea's environmental achievements and objectives in fiscal 2008 and objectives for fiscal 2009. For detailed information and specific examples, please refer to the page(s) indicated in the right column.

#### Products

Objectives for Fiscal 2008	Achievements in Fiscal 2008	Objectives for Fiscal 2009	Page
<ol> <li>Reduce or eliminate hazardous chemical substances in products</li> <li>Ensure continued RoHS <sup>1</sup> and ELV <sup>2</sup> compliance</li> <li>Promote EuP directive<sup>3</sup>-compliant LCA<sup>4</sup>-based ecodesign system</li> </ol>	1. Achieved RoHS compliance for all products (except certain special components) and maintained management system. Thoroughly continued use of XRF spectroscopes to detect presence of substances banned under the RoHS directive.	<ol> <li>Lower resource consumption         <ul> <li>Reduce volume of materials/parts used</li> </ul> </li> </ol>	14 23
<ul> <li>Develop products that save energy or otherwise exert a minimal impact on the environment</li> <li>3. Lower resource consumption</li> <li>Reduce volume of materials used</li> </ul>	<ol> <li>Conducted LCA (Life Cycle Assessment) of bearings and fan motors. Promoted LCA of other products.</li> <li>Developed the world's smallest- diameter permanent magnet (PM)- type stepping motor (3.2 mm diameter)</li> </ol>	<ul> <li>2. Promote EuP directive-compliant LCA-based ecodesign system</li> <li>Develop products that consume less electricity</li> </ul>	15

#### Green procurement

Objectives for Fiscal 2008	Achievements in Fiscal 2008	Objectives for Fiscal 2009	Page
Publish Minebea Group Green Procurement Standard, 3rd Edition	Published Minebea Group Green Procurement Standard, 3rd Edition and held a briefing session	<ol> <li>Control chemical substances in products         <ul> <li>Maintain control of RoHS and ELV directives</li> <li>Comply with REACH <sup>5</sup> regulation</li> </ul> </li> </ol>	16

#### Distribution

Objectives for Fiscal 2008	Achievements in Fiscal 2008	Objectives for Fiscal 2009	Page
<ol> <li>Expand use of energy-efficient distribution methods</li> <li>Improve packaging materials and</li> </ol>	<ol> <li>Continued to promote use of energy- efficient distribution methods</li> <li>Promoted recycle of cardboard,</li> </ol>	<ol> <li>Expand use of energy-efficient distribution methods</li> <li>Improve packaging materials and</li> </ol>	17
transport methods	cushioning materials and wrapping materials	transport methods	

				-	-	
G	05	S	ar	v		

RoHS(Restriction of Hazardous Substances) directive: An EU directive banning the use of certain hazardous substances in electrical and electronic equipment.
 ELV (End-of-Life Vehicles) directive: An EU directive that sets recycling rates for automobiles and bans the use therein of substances that negatively impact the environment.
 EuP (Energy-using Products) directive: An EU directive that obliges manufacturers of energy-using products to adopt ecodesign considerations.
 LCA (Life cycle assessment): An LCA is used to quantify the "cradle-to-grave" impact of a given product on the environment, that is, the impact throughout the product's life cycle.
 REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) regulation: A regulation on chemicals and their safe use compelling manufacturers and importers in EU to register, authorize and gather information on the properties of their chemical substances.

### Plants

Objectives for Fiscal 2008	Achievements in Fiscal 2008	Objectives for Fiscal 2009	Page
Reduction of Energy Consumption/Contribution to Prevention of Global Warming Lower energy consumption (per unit of sales) 1% annually	<ol> <li>Total energy consumption at plants worldwide:</li> <li>Fiscal 2007: 813,096,000 kWh</li> <li>Fiscal 2008: 824,545,000 kWh</li> <li>Energy consumption per unit of sales</li> <li>Fiscal 2007: 245,930 kWh/¥100 million</li> <li>Fiscal 2008: 246,570 kWh/¥100 million</li> <li>Purchased green power</li> <li>Implemented measures to lower energy consumption</li> <li>Promoted greening of plants</li> <li>Changed fuels used</li> <li>Replaced heavy oil A with natural gas</li> </ol>	Lower energy consumption (per unit of sales) 1% annually	7 18 19 20
Prevention of Damage to the Ozone Layer Switch to air conditioners that do not use ODSs when installing new or replacing existing units. Number of units scheduled to be switched: 8	Number of units switched: 14	Switch to air conditioners that do not use ODSs when installing new or replacing existing units. Number of units scheduled to be switched: 6	9 18
Promotion of "3R" <sup>6</sup> Compatibility for Waste Reduce the total waste output 10% from the fiscal 2006 level by June 2009	Reduced disposal of waste as landfill: Fiscal 2007 volume: 5,342 tons Fiscal 2008 volume: 7,806 tons	Reduce the total waste output 10% from the fiscal 2006 level by June 2009	21 22
<b>Prevention of Water Contamination</b> Observe environmental laws and regulations	All plants have brought contamination below levels stipulated by local laws and regulations	Observe environmental laws and regulations	8
<b>Prevention of Air Pollution</b> Observe environmental laws and regulations	All plants have brought contamination below levels stipulated by local laws and regulations	Observe environmental laws and regulations	8
<ul> <li>Rehabilitation of Contaminated</li> <li>Soil and Groundwater</li> <li>1. Observe environmental laws and regulations</li> <li>2. Continue to implement measures at plant sites found to be contaminated</li> </ul>	Continued to take steps to resolve contamination caused by chlorinated organic solvents	<ol> <li>Observe environmental laws and regulations</li> <li>Continue to implement measures at plant sites found to be contaminated</li> </ol>	23
<ul> <li>Management of Chemical Substances</li> <li>1. Expand use of MMDB-II <sup>7</sup></li> <li>2. Expand use of English-language version of MMDB-II</li> </ul>	<ol> <li>Continued use of MMDB-II</li> <li>Continued use of English-language version of MMDB-II</li> </ol>	<ol> <li>Expand use of MMDB-II</li> <li>Expand use of English-language version of MMDB-II</li> </ol>	-
<ul> <li>Establishment of Pollution Patrol Programs</li> <li>1. Continue to implement regular patrols</li> <li>2. Conduct regular audits of waste processing service providers</li> </ul>	<ol> <li>Implemented environmental patrols covering plants as well as surrounding areas</li> <li>Conducted regular audits of waste processing service providers</li> </ol>	<ol> <li>Continue to implement regular patrols</li> <li>Conduct regular audits of waste processing service providers</li> </ol>	22

Clossary 6. 3R: 'Reduce, reuse, recycle': An initiative that sets priorities for use of waste. 7. MMBD-II: A data base for referring to MSDS of charged to the 6. 3R: "Reduce, reuse, recycle": An initiative that sets priorities for use of waste.
7. MMBD-II: A data base for referring to MSDS of chemicals used in plants of the Minebea Group and for controlling entering and dispatching from warehouse.

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# Other Areas

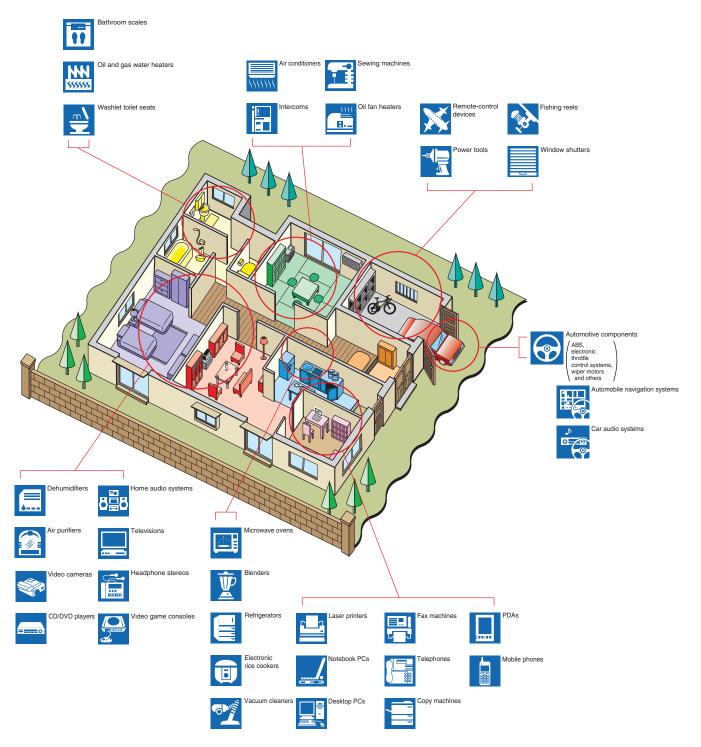
Item	Objectives for Fiscal 2008	Achievements in Fiscal 2008	Objectives for Fiscal 2009	Page
Environmental Audits	Internal environmental audits Ongoing	Implemented audits by in- house environmental auditors	Ongoing	5
	External environmental audits Ongoing	Implemented audits by external audit organizations	Ongoing	5
Environmental Education	New employees Ongoing	Implemented environmental education programs for new recruits	Ongoing	24
	Basic employee education Ongoing	Provided regular environmental education for all employees	Ongoing	24
	Emergency response training Ongoing	Implemented fire and oil leak drills	Ongoing	25
	In-house training (Internal auditors) Ongoing	Implemented training programs for in-house environmental auditors: Fiscal 2008: 15 in Japan (cumulative total 196)	Ongoing	24
Environmental Communications	Present information on environmental protection efforts Publish Minebea Group Environmental Report	<ol> <li>Presented information on environmental protection efforts on the Minebea web site.</li> <li>Published <i>Minebea Group</i> <i>Environmental Report 2007</i></li> </ol>	Publish <i>Minebea</i> Group Environmental Report 2008	27
	Communication with local communities Continue to communicate with local communities	Distributed the Minebea Group Environmental Report to local authorities and participants in plant tours	Ongoing	27
Community Activities	Clean-up programs Ongoing	Organized clean-ups around plants, including roads traveled by employees commuting to work Employees cleaned streets around their plants	Ongoing	29
	Tree-planting/Greening of plants Ongoing	Conducted at plants	Ongoing	20
	Support for local environmental protection efforts Support for local environmental protection efforts	Conducted at plants	Ongoing	28 29
	Environmental protection fund Continue to use fund to assist local environmental protection activities Shanghai-Minebea Lake Dianshan- hu Environmental Protection Fund (Established April, 1996): Rmb 11.4 million (approx. ¥163.0 million)	Used fund to assist local environmental protection activities	Continue to use fund to assist local environmental protection activities	_

Note: The objectives presented herein were formulated based on certain assumptions. Please note that the Company's actual performance may vary significantly from any particular objective, owing to various factors.

Persons interested in transactions with Minebea are advised to contact the appropriate person in charge in advance.

The Minebea Group manufactures ball bearings; machined components, notably aircraft and automotive components; and electronics components, including motors, liquid crystal display (LCD) backlights, strain gages and PC keyboards. These products are used in a wide range of devices in everyday life.

It is estimated that, for example, between 100 and 200 small-sized ball bearings are used in the average home. Ball bearings are bearings that contain rolling elements, that is, balls, which minimize friction, thus enabling devices to rotate smoothly. Miniature ball bearings are required in ever-greater numbers for advanced home and office electronic equipment and are contributing to efforts to develop models that are smaller, use less energy and last longer.



#### Minebea Products: Essential to Modern Lifestyles

### Development of Environment-Friendly Products

# Contribution to the global environment with high-accuracy, high-quality bearings

"Circularity of groove between outer ring and inner ring", "sphericity of ball" and "material quality of components" are key factors for accuracy of ball bearings and significant improvement of all the elements can increase accuracy.

Minebea group manufactures all the components by ourselves using our own machining tools making the most of know-how accumulated over 50 years, maintenance technology and effective production line layout to pursue high-accuracy at every moment. We also started LCA (Life Cycle Assessment) to recognize environmental burden related to products and make efforts to decrease the load. The bearings manufactured in such conditions not only help improve accuracy of information and telecommunications equipment, household appliances and cars but also contribute to lengthen product life, save energy and save resource.

#### ○ Strain gauge type force sensor

A strain gauge is a resistive element developed using a photo lithography technology (printing gauge patterns with thin metal resistor foil). By adhering to load gauge (portion where strain is caused), strain due to weight and pressure applied to it is detected as change of electric resistance. The strain gauge is so small and light that weight and inertia are negligible to have excellent sensitivity, stability and long fatigue life. It is user-friendly, has wide limit of operating temperature, and can be used to measure various kinds of objects such as metal and plastic. Such advantages enable strain gauge type force sensors to be adopted as sensors in weight scales and balance measuring sensors.

We use lead-free solder and have eliminated hazardous substances such as phthalate compounds so that our products comply with the Restriction of Hazardous Substances (RoHS) directive.



Miniature/small-sized ball bearings



Strain gauge type force sensor

# World's smallest-diameter permanent magnet (PM)-type stepping motor (3.2 mm diameter)

In recent years, demand has grown rapidly for permanent magnet (PM) stepping motors for use in small lens actuators for digital still cameras and other applications.

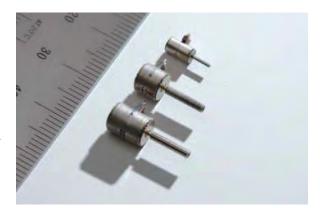
Minebea has developed a PM stepping motor with a 3.2 mm diameter. The world's smallest in terms of diameter, the motor achieves superior performance, combining sufficient output power as a lens drive actuator as well as high-precision step driving. The motor facilitates the construction of ultra-small lens units for camera-equipped mobile phones, demand for which is expanding rapidly, making it possible to design thinner and smaller camera-equipped mobile phones. Higher resolution also makes it possible to incorporate autofocus and zoom functions and enhance the performance of camera-equipped mobile phones.

#### In-house production machinery

#### © Environment-friendly production machinery

Minebea has designed, developed and manufactured production machinery for bearings, which are our main products, to improve precision and quality of our products. We have reduced electric power consumption and amount of resources including air required in manufacturing as a way of reducing energy and emission of carbon dioxide during production.

Example of improving grease shielding machine Our new machine performs the same work as three conventional machines. Space occupancy is thus decreased and the new machine requires far less power and air than conventional machine.



World's smallest-diameter stepping motor (right) and stepping motors with 6 mm diameter (center, left) Source: Minebea (As of April 2008)



Bearing parts manufactured with in-house production machinery

Green procurement plays an important role in facilitating ongoing compliances with restrictions on hazardous substances and management, such as those specified in the EU's RoHS directive and REACH regulation. In addition to setting forth procurement guidelines aimed at ensuring legal compliance and customer satisfaction, as well as at reducing the use of substances that give negative impact to the environment, Minebea Group gives priority to procuring environment-friendly materials and parts from suppliers that actively work to preserve the environment.

# Publication of Revised Minebea Group Green Procurement Standard and Briefing Session

The Minebea Group Green Procurement Standard was published in July 2004 to guide its procurement efforts. In light of shifting social conditions and resulting changes in legal requirements and customer demands, and in response to technological advances, Minebea published the third edition of Minebea Group Green Procurement Standard in December, 2007.

We also have held briefing sessions to inform our suppliers of details of the revision in various regions.



Detailed Information on Minebea's green procurement activities is available on Minebea's web site.

Interested suppliers and customers are invited to visit the following page:

http://www.minebea.co.jp/english/procurements/ green/index.html



Briefing session for our supplier in Shanghai, China.



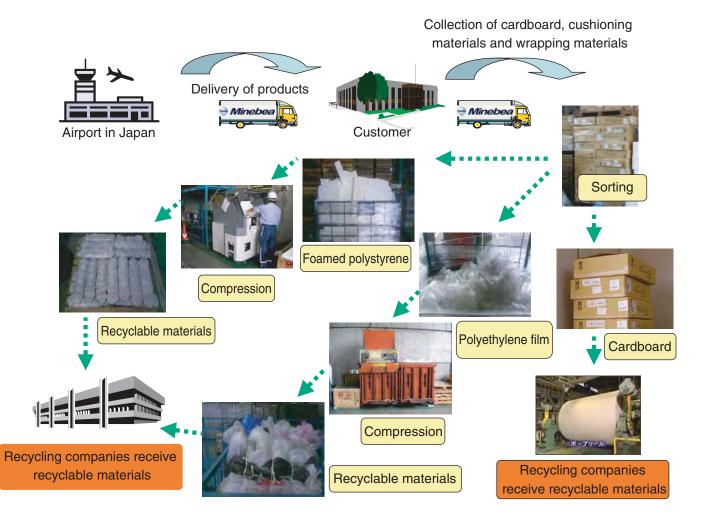
Top page of the green procurement section of Minebea's web site

Distribution practices have a significant impact on the environment. Corporate entities can thus be said to play a crucial role in efforts to reduce that impact.

The Minebea Group is taking various steps, including implementing modal shifts, aimed at reducing emissions of CO<sub>2</sub> and atmospheric pollutants.

#### O Promotion of recycling cardboard, cushioning materials and wrapping materials

Minebea has launched a program to promote recycle of cardboard, cushioning materials and wrapping materials for packing materials of inverter products manufactured in Thailand. On arrival at an airport in Japan, our products are delivered to our customers by a truck, and then cardboard, cushioning materials and wrapping materials used for packing materials are collected. The truck returns to the airport with the used packing materials, which are sorted in the airport, compressed with machines and are sold to recycling companies as recycle materials.



"Minebea's manufacturing activities depend on the communities in which its plants are located. Accordingly, we must strive to contribute to the communities without being a burden on them", said then-president Ogino at a meeting of the Corporate Environmental Protection Committee in June, 1993.

Today, this conviction is shared by all Minebea Group companies and serves as a guideline for environmental protection. The spirit of "contributing to the communities without being a burden on them" lead to the contribution to the global environment.

# Reduction of Energy Consumption/Contribution to Prevention of Global Warming

# Reduction of Energy Consumption (Karuizawa Plant)

The Karuizawa Plant is undertaking various efforts to reduce energy consumption. Refrigeration units have been replaced with high-efficiency ones as was the case last year to decrease electric power consumption for air conditioning. Other examples are, installation of inverters to power machinery, human detection sensor for automatically turning off unnecessary lighting, installation of LED lighting, adjustment of light output to decrease fluorescent lamps, optimizing the preset temperature of air conditioners to eliminate waste of energy, reviewing pressure setting of cir compressors, and posters for increasing awareness about energy saving. In addition to our energy-saving efforts to lower CO<sub>2</sub> emissions described above, fuel for air conditioners such as water cooling/heating equipment and boilers is switched from heavy oil A to natural gas to lower CO2 emissions further.



Poster for energy-saving campaign introducing various energy-saving effects

# Reduction of Energy Consumption (Thai Operations)

Various energy-saving activities are developed for Thai Operations. Minebea took part in Total Energy Management: TEM4, a project sponsored by the Ministry of Energy, attended seminars given by professionals of the energy-saving project and won highest award for Energy Conservation Plant Manager in Thailand Energy Award 2007 sponsored by the Ministry. We also invite government-affiliated specialists in energy-saving to have in-house seminars for improving the level of employees. As such steady efforts take effect, about 40 measures for energy-saving have been taken voluntarily in four plants in Thailand. The Minebea Group will not only continue to participate in energy-saving programs and cooperate with Thailand but also take an active role in energy-saving programs.



Vutichai Udomkarnjananan, director, receiving a trophy from Dr. Piyasawat Ammaranan, minister of the Energy-saving Ministry (right)

# Participation in CO<sub>2</sub> reduction/light down campaign (Hamamatsu Plant)

The Ministry of the Environment sponsors "CO<sub>2</sub> reduction/light down campaign" around summer solstice every year, suggesting to people at home as well as private facilities and public facilities across the country that they should turn out light to prevent global warming. In 2008, they asked facilities with lighting equipment nationwide to turn out light from 8 pm to 10 pm on June 21st (summer solstice) and July 7th (first day of Toyako summit) and Hamamatsu Plant took part in the campaign. Important objective of the campaign is not only amount of reduced power but also experience of darkness during the campaign so that people will review life in a earth-friendly way.

Only 15 kW was saved during the two days (four hours) in Hamamatsu Plant, but the nationwide result is as mentioned below.

Nationwide result of the campaign in 2008 Participant: 149,937 facilities

Amount of power consumption reduced: 2,370,807 kWh Reduced amount of CO<sub>2</sub> emission: 925 tons of CO<sub>2</sub> (Equivalent to emission of about 64,000 households per day)



Hamamatsu Plant with lights turned on The lights and some other light in the plant were turned off from 8 pm to 10 pm on June 21st and July 7th

 Review of lighting intensity and reduction of fluorescent lamps in offices (Yonago Office, Minebea Motor Manufacturing Corporation)

We reviewed intensity of light and reduced the number of fluorescent lamps of the roof illuminations in Yonago Office, Minebea Motor Manufacturing Corporation, where all the roof illuminations had been turned on before, yielding 1,000 lux.

Reviewed light intensity Before reviewing: 1,000 lux After reviewing: 600 lux

Number of fluorescent lamps Before reviewing: 120 After reviewing: 100



Yonago office after reducing fluorescent lamps

# Energy-saving and greening activities in offices (Fujisawa Plant)

We rearranged layout of management center offices to make working environment more friendly. In addition, human detection sensors and highefficient lighting fixtures are installed to hot-water service rooms and toilettes and air conditioners were replaced with ones with individual control so that every room can be adjusted to optimum setting to save energy further.

Following rebuilding of aerospace components plant, we switched a part of old outdoor workplace to green space of 630 m<sup>2</sup> and planted over one hundred trees and flowers. Sitting area is installed in the green space to make it a place for employees to relax.



Energy-saving office with new layout



New green area and sitting area

## O Installation of low-emission vehicle (Thai Operations)

We introduced low-emission vehicles which run on natural gas to decrease emission of air pollutants and environmental burden.

The low-emission vehicles are generally known by the name of CNG (Compressed Natural Gas) vehicle or NGV (Natural Gas for Vehicle). We are planning to introduce the NGV system to three microbusses.



Gas tank installed on NGV

#### © Ecological Commuting (Karuizawa Plant)

Ecological commuting refers to environment-friendly commuting by public transportation, bicycle or on foot without using private cars. Ecological commuting is not only earth-friendly but also help improve employee's health and ease traffic jams. We have promoted ecological commuting by means of posters, etc. for prolonged periods.

Even though the Karuizawa Plant is not well located in terms of public transportation and most people use cars for transportation, not a few employees switched from commuting by car to commuting by bicycle or on foot, implying high interest in ecology.



Employees commuting by bicycle

# Promotion of 3R (Reduce, Reuse, Recycle)

#### **ONew Hampshire Ball Bearings (US) was presented the 2007 Governor's Award for Pollution Prevention**

The Astro Division of New Hampshire Ball Bearings (hereinafter called NHBB), US subsidiary of Minebea, was honored by the US State of New Hampshire for its pollution prevention practices and was presented the 2007 Governor's Award for Pollution Prevention in September, 2007.

This award was presented due to the outstanding pollution prevention practices based on the program promoted by the New Hampshire Department of Environmental Service.

The Astro Division of NHBB, manufacturing spherical bearings and rod-end bearings for Aerospace use, has dedicated itself to establishing and maintaining a world-class environmental management system (EMS) that includes internal and external commitments to reduce their environmental footprint.

Between 2003 and 2006, the Astro Division reduced 4 tons of hazardous waste and 191.4 tons of non-hazardous waste. Additionally, their emissions reductions were 174 tons of carbon dioxide, energy reduction was 4,251,650 kWh and they had net water savings of 718 kiloliters.

## ◎ Activity of 3R committee (Shanghai operations)

The 3R committee of Shanghai operations was established with the aim of reducing, reusing and recycling waste from plants and of controlling and disposing waste in compliance with relevant regulations. The 3R committee has about 40 people selected from respective departments consisting of five sections organized according to waste type (scrap iron, waste plastic, waste oil, general waste and business management) as well as chairperson and secretariat conducting daily operation and holding regular meeting to which all the members attend.

In addition to work of reducing and controlling in-house waste, the 3R committee also checks if the waste emitted or sold externally is disposed in accordance with regulations including checking qualification of waste collectors and checking with visiting audit. We take into account market price and sales price of other plants in determining sales price of waste to make it appropriate. Part of the proceeds was spent in manufacturing and distributing eco bags to all the employees to correspond to the Charging on Plastic Bags System which came into effect in June, 2008 to reduce amount of waste plastic bags by stopping free distribution, as enlightenment activities.



Shield given for 2007 Governor's Award for Pollution Prevention



Manager Herb Parkhurst (third right), receiving the shield from John Lynch (second right), governor of the State of New Hampshire.



Audits of waste disposers conducted by the 3R committee

#### ODecrease of water-soluble waste oil (Karuizawa Plant)

Soluble cutting oil is inevitable for precision-machining metal components such as ball bearings, rod-end and spherical bearings.

Soluble cutting oil rot should be replaced approximately every three to six months because bacteria grow to give off evil smell.

As we have reduced amount of waste year by year, soluble waste oil has the highest percentage among waste in the Karuizawa Plant. We introduced ozone generators as an attempt to decrease soluble waste oil. Ozone is said to be effective in preventing and removing putrid smell of soluble cutting oil and we can expect to reduce the amount of waste by extending useful life span of soluble cutting oil.

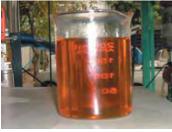
#### **O** Making biodiesel <sup>1</sup> from waste oil (Thai Operations)

Minebea financially assisted "R & D center for utilization of biodiesel" established in Bangkok immigration office in cooperation with Takahashi Foundation to contribute biodiesel production facility. The facility enables to make biodiesel from used cooking oils.

The center not only aims for reduction of environment problem by reducing use of fossil fuel and waste of cooking oils but also aim to provide the knowledge of manufacturing biodiesel to schools, government organizations and private organizations in neighboring community interested in biodiesel.



Ozone generator installed to a cutting machine.



Biodiesel made from cooking oils



Biodiesel manufacturing machine

#### **Reduce of waste (Thai Operations)**

The Ayutthaya Plant in Thailand made chairs, desks and sunshade for sitting area for relaxation using wood boxes in packaging materials to reduce waste and use resources effectively.



Desks, chairs and sunshade made from packaging materials

Glossary
1. Biodiesel: Biodiesel stands for biodiesel fuel, a generic term used to refer to fuel for diesel engine made from biologic-origin oil and is a kind of biomass energy.
5

# Management of Environmental Burden

# Acquisition of ISO/IEC 17025:2005 international laboratory accreditation for all six RoHS substances (Karuizawa Plant)

The Material and Process Laboratory of Minebea Co., Ltd. acquired accreditation for the ISO/IEC 17025:2005 standard in the field of analysis with respect to the six hazardous substances of the EU RoHS directive, namely lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers on March 14, 2008. Certificates of analysis issued by the laboratory with the accreditation is regarded effective in international trading according to the global Mutual Recognition Arrangement (commonly called MRA), meaning that the certificates are effective all over the world.

The Karuizawa Plant is the third laboratory to obtain the accreditation after Minebea R&D center in Thailand and Shanghai Plant in China and the first laboratory in Japan to obtain the accreditation for all the six hazardous substances described above. In order to ensure RoHS compliance, Minebea installed X-ray fluorescence (XRF) spectrometers to all the plants and divisions handling materials that may contain hazardous chemical substances in order to check all materials for hazardous chemical substances during receiving inspection. If excessive levels of hazardous chemical substances are contained, we conduct more accurate analysis in the laboratory described above.

#### Rehabilitation of Contaminated Soil and Groundwater

#### O Cleanup of contamination from organic chlorinated solvents

Since it previously used organic chlorinated solvents in its manufacturing processes, Minebea has conducted voluntarily inspections of its plants in Japan. These inspections confirmed the presence of contamination at the Karuizawa, Fujisawa and Omori plants, as well as the site of the former Ichinoseki Plant. Minebea promptly informed local authorities and, in line with directives issued thereof, is implementing cleanup measures.



Certificate issued by The Japan Accreditation Board for Conformity Assessment



Appendix issued by The Japan Accreditation Board for Conformity Assessment (Excerption)

Minebea provides a variety of environmental education programs and safety trainings for its employees to ensure the effectiveness of its environmental management system and to enhance the awareness and skills of employees, as well as to minimize the impact of environmental accidents on human life.

# ◎ In-house newspaper about environment "Hello Environment! (for Minebea Group)"

We cannot find many instruction materials or references appropriate for encouraging employees to increase environmental awareness at hand. Based on this perspective, Secretariat, Environmental Protection Committee of Minebea Group began to issue "Hello Environment! (for Minebea Group)" in April, 2008.

It covers not only in-house environmental issues but also tips on preserving environment in everyday life and natural environment to attract as many readers as possible.

# ◎ Training program for in-house ISO 14001 auditors

Minebea provides an annual training program to foster in-house ISO 14001 auditors. These programs are instructed by accredited in-house auditors for two days. The lectures comprise ISO14001 audit procedures, global environmental issues, environment-related technologies, environmental laws followed by practical training on site at a Minebea plant.

As of the fiscal 2008 year-end, 196 individuals had completed this training program in Japan. These individuals are currently serving as in-house environmental auditors at Minebea's plants.

# © Environmental education

The Minebea Group conducts regular educational programs for all employees. The Group also provides stringent training for new employees, including new and mid-career recruits, inter-departmental transferees and agency staff, as well as for employees returning from assignments abroad and trainees from overseas Group companies.



Minebea Group environment newspaper "Hello Environment!"



Lectures given by a director in charge of environment



Summary of practical training for audit



Practical training on site for audit

#### O Disaster response drills (Karuizawa Plant)

The Karuizawa Plant conducts annual disaster response drills and safety training based on the premise that a major earthquake has occurred, resulting in fires and oil spillage.

We set up Disaster Response Headquarters in the immediate aftermath of the earthquake. The



Lessons on AED (Automated external defibrillator)



Training for oil-spill-prevention division

headquarters' first priority is to protect human life. Accordingly, its first step is to confirm the safety of employees using a specialized ID card system. Next, water-discharge drills on the premise of fire and lessons on cardio pulmonary resuscitation and AED (Automated External Defibrillator) are conducted.



Water-discharge drills for fire-extinguishing division



Disaster Response Headquarters

#### ○ LCA (Life Cycle Assessment) training

In response to the EuP directive and other environmental regulations, the Minebea Group introduced LCA (Life Cycle Assessment) to promote ecodesign.

Also with this aim, the Minebea Group held a lecture using LCA-support software and conducted LCA for bearings and fan motors to make procedure manual on LCA. Minebea also holds briefing sessions on the procedure manual on LCA in plants where designing is conducted.



Lesson on LCA (Hamamatsu Plant)

The Minebea Group provides extensive information on its environmental preservation activities to the public via its web site and its environmental report. The Group also actively solicits the options of its employees and incorporates them into its environmental activities.

#### © Environmental painting and photo competition (Thai operations)

Minebea held a painting competition under the theme of "unifying family members of Minebea staff toward antiwarming measures" to interest children of employees in global environmental issues in Thailand. The following four pictures are award-winning works in the categories of elementary, junior and senior high school students.



Category: Elementary school student Kittiphong Phorang Mother: Ms. Nitkamol Phorang Bang pa-in Factory, HRA Div.



Category: Elementary school student Kamolchanok Chee-khang Mother: Ms. Kingtey Cheekhang Bang pa-in Factory, FDB Unit Div.



Category: Junior high school student Pattharaporn Choo-cherd Mother: Ms. Sureerat Choocherd Bang pa-in Factory, Machine shop Spindle Motor 2 Div.



Category: Senior high school student Akaveena Wasuk Mother: Ms. Anchukorn Kasemrat Bang pa-in Factory, Pelmec Div.

Central Environmental Board held a photo competition under the theme of "employees' environmental awareness" as an event commemorating the 25-th anniversary of the establishment of the plants in Thailand. The following are some of the award-winning works.



Photographed by: Mr. Prawet Wunnarak Bang pa-in Factory, Balls Div.



Photographed by: Ms. Uthumporn Khumput Bang pa-in Factory, Machine shop Spindle Motor 1 Div.



Photographed by: Mr. Suravuth Boonpluk Bang pa-in Factory, Spindle Motor Div.



Photographed by: Ms. Dusita Tammikakul Bang pa-in Factory, Pelmec Div.

#### **O Summer festival (Omori Plant)**

The Omori Plant held an annual summer festival. The festival aims at fostering private exchanges between employees and exchanges with local residents. The festival ended on a high note with lot of people including members of neighboring association, children, our partners and families of employees while our staff served at various refreshment booths. Members of the environmental disaster-prevention committee assisted people to separate trash for separate collection on the day.



Members of the environmental disaster-prevention committee assisting separate collection

# Publication of the Minebea Group Environmental Report

In recent years, companies have come under increasing pressure to disclose information on their efforts to incorporate environmental protection into their business activities.

In fiscal 2004, Minebea published its first annual Group environmental report.

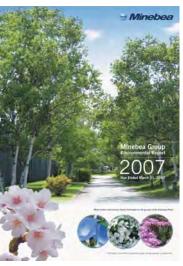
To ensure that the reports are as useful and informative as possible, Minebea disclose information in accordance with the Japanese Ministry of the Environment's Environmental Reporting Guidelines.

## Information on environmental efforts on the Minebea web site

The Minebea web site features information on current environmental protection efforts, as well as Minebea's Environmental Protection Principles and a history of efforts to date.

http://www.minebea.co.jp/english/environment/ activities/index.html

For inquiries and comments on Minebea's environmental efforts, please see the back cover of this report.



Minebea Group Environmental Report 2007



Top page of Minebea's web site covering environmental protection

As members of the communities in which they operate, companies must communicate and work with national and municipal authorities, educational institutions and other organizations to promote efforts that contribute to society.

# Tree planting event in Thailand (Thai Operations)

Employees engaging in Thai Operations provided financial support for purchasing sapling to help "Reforesting program for stopping global warming" held in Sam Roi Yot national park as an event for the World Environment Day (June 5th) with Power of Love organized by graduates of HOAI-CT (first grading class).

10,633 samplings were bought with donations from four plants of the Minebea Group and delegates of the Environmental Committee in Thailand participated in the greening program to plant them on June 14th, 2008. The planting was conducted in Sam Roi Yot national park in Prachuab Khiri Khan and 30,000 sampling were planted in total for the program.

Employers and employees also planted 581 trees around baseball ground behind the second plant and parking area for pickup bus for employees as an event commemorating 80th anniversary of the king of Thailand and 25th anniversary of Minebea plants in Thailand on December 4th, 2007.

In addition, Minebea took part in Reforestation project promoted by the king of Thailand and planted 2,000 golden shower trees around an intersection close to Anand Mahidon hospital.



Saplings planted by employees



Employees taking part in greening program



Administration officials and employees who participated in planting

## ◎ Tree planting event in Japan (NMB Electro Precision, Inc., Japan)

Tree planting event in Japan (NMB Electro Precision, Inc., Japan)

Volunteers in NMB Electro Precision, Inc., a Minebea Group company in Japan, participated in the "5th Kokeshi Tree-Planting" program sponsored by the Sendai City and planted trees in Akiu-machi, Taihaku-ku, Sendai City.



Employees of NMB Electro Precision, Inc. taking part in planting program

# Promotion to increase environmental awareness of children (Thai operations)

Minebea contributed funds to build the Mae Fahn Luang school in Tak Province, Thailand as described in our Environmental Report 2007. Delegates of Environmental Management Committee visited the school to donate books and learning materials and talked about environment with elementary and junior school students.

Minebea donated a library and an environment awareness corner to Banchung School in Ayutthaya Province in 2006. In fiscal 2008, we held a competition of pictures and display of environment under the theme of "Environment and Energy Protection" in Banchung School in Ayutthaya Province to increase awareness on environment and energy protection of elementary and junior school students.

Minebea donated fund to the Takahashi Fund (established by Minebea), which supports schools and students financially in Thailand in commemoration of the 25th anniversary of Thai operations. The Takahashi Fund donated a library to the Wat Tha Ka Rong School in Ayutthaya Province and established set up an "environment" corner within the library in December, 2007. The corner contains a miniature garden and pond as well as a display board for environment information so that students can be familiar with nature.

Elementary and junior school students in Mae Fahn Luang school



Environment corner in the library donated to the Wat Tha Ka Rong School



Environment corner in the library donated to the Wat Tha Ka Rong School

## **○**Cleanup effort on road used by employees(Japan)

Employees in Japanese plants clean up roads around their plants. As part of Environment Month held every June, employees of the Karuizawa Plant take part in a cleanup effort on roads around the plant used by employees commuting to and from work.



Cleanup of roads around the plant used by employees (Karuizawa Plant)



in Sendai, Japan, started participating in the Sendai City Beautification program. Volunteer groups in the

**O Sendai City Beautification Program** 

(NMB Electro Precision, Inc., Japan)

company actively participate in the program during free time such as lunch break.

It is four years since NMB Electro Precision, Inc., based

The Sendai City granted us a signboard for our active commitment.



Signboard awarded by the Sendai City



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For further information, please contact: Secretariat, Environmental Protection Committee (Minebea Group) Environmental Management Office, Hamamatsu Plant 1743-1, Asana, Fukuroi-shi, Shizuoka 437-1193, Japan Tel : +81-538-23-7082 Fax : +81-538-23-7040

Additional information on Minebea's environmental efforts is available in English at: http://www.minebea.co.jp/english/environment/activities/index.html







Minebea Co., Ltd. supports the KIZUKAI-UNDOH (Wood Products Utilization Campaign) promoted by the Forestry Agency because we think it is important to positively use domestic timber and grow the forest in Japan. The domestic timber is used as papermaking material for producing this booklet, and it contributes to expand carbon absorption of the domestic forest.

This report is printed on paper of pulp obtained from wood certified and controlled by FSC (Forest Stewardship Council), using "soybean oil-based ink", 100% vegetable oil free from VOC (Volatile Organic Compound). We support "the KIZUKAI-UNDOH (Wood Products Utilization Campaign "promoted by the Forestry Agency by employing "3.9 % paper system" as well.