

Minebea's global presence currently encompasses 28 plants in nine countries and 43 sales offices in 13 countries. Minebea acknowledges that these plants and sales offices exert a burden on the environment. This burden comprises "input," that is, the raw materials, energy and other materials the Company consumes for use in production, and "output," or the CO₂ emissions, industrial waste and products it discharges. The chart below depicts input and output from Minebea's plants in fiscal 2006.

Input-Output Flow and Material Balance¹¹

Energy

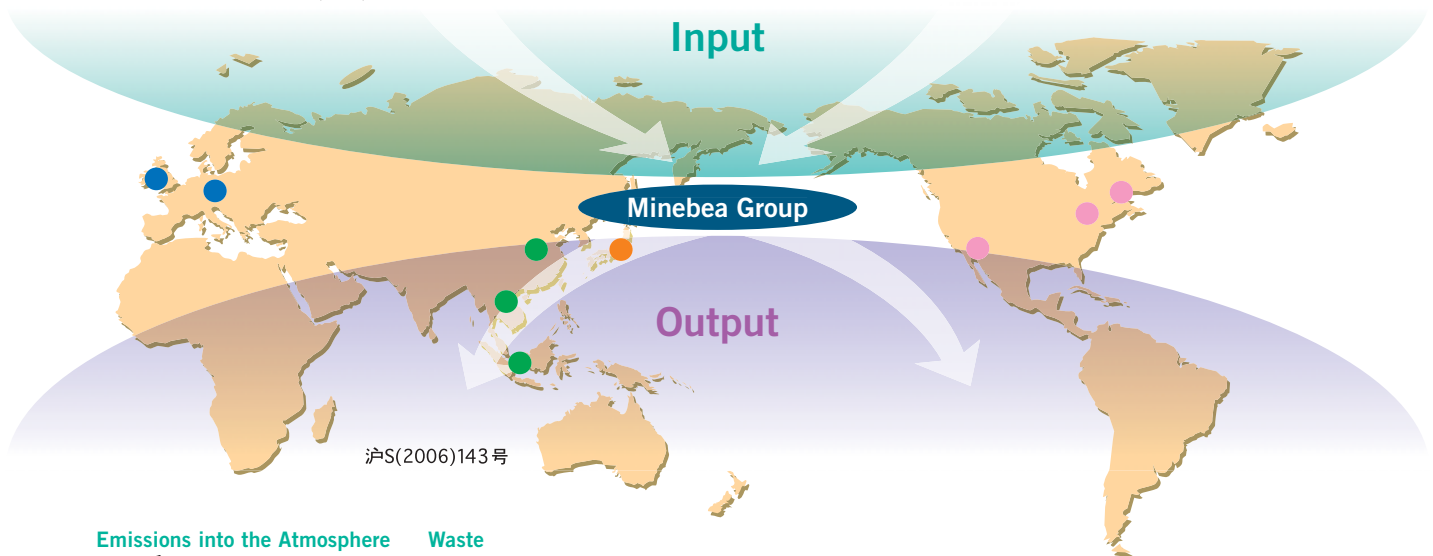
- Electricity: 813,003,000 kwh
- LPG: 1,714 tons
- City gas: 1,893,000 m³
- Oil: 3,548 kiloliters
- Water: 3,854,000 m³

Raw Materials/Components

- Steel: approximately 57,000 tons
- Resin: approximately 19,000 tons
- Electronic components
- Packaging materials

Chemical Substances

- PRTR chemicals ⁷: 9.4 tons (Japan)



Emissions into the Atmosphere

- CO₂¹: 513,666 tons
- NO_x²
- SO_x³
- Particulates¹⁰

Waste

- Waste disposed of as waste outside the Company: 22,838 tons
- Waste recycled or reused: 15,751 tons
- Waste disposed of as landfill: 4,240 tons

Emissions into Water

- Wastewater: 3,500,000 m³
- pH⁴
- COD⁵
- BOD⁶
- SS⁸
- n-Hexane extractions⁹

Products

- Bearings
- Motors
- PC keyboards
- Speakers
- Electronic devices
- Measuring components
- Others

Chemical Substances

- PRTR chemicals ⁷: 8.0 tons (Japan)

Glossary

1. **CO₂:** Carbon dioxide
2. **NO_x:** Nitrogen oxides
3. **SO_x:** Sulfur oxides

Emissions of CO₂, NO_x and SO_x result from the burning of coal, oil, gasoline and other fuels by, among others, thermal power generation, plant boilers and exhaust emissions from cars and trucks.

4. **pH:** A solution's pH reading indicates whether it is alkaline or acidic. The pH range is from 0 to 14, with 7.0 being neutral. Anything above 7.0 is alkaline, anything below 7.0 is acidic.

5. **COD: Chemical oxygen demand**
The amount of oxygen required for oxidation of organic solids in water to CO₂. COD readings can be obtained more quickly than BOD readings, but they are less reliable. COD is commonly used to monitor pollution in effluent discharged into oceans and lakes.

6. **BOD: Biological oxygen demand**
The amount of oxygen required for the biological oxidation of organic solids in water. The higher the BOD reading, the greater the level of pollution. BOD ratings usually take five days. BOD is commonly used to monitor pollution in effluent discharged into rivers.

7. **PRTR substances: Substances included in a Pollutant Release and Transfer Register (PRTR)**

In Japan, the Law Concerning the Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management requires companies to register and monitor the release and transfer of designated PRTR substances. Data for plants overseas is in the process of being collated.

8. **SS: Suspended solids**

This term refers to matter suspended or dissolved in water or wastewater. The higher the percentage, the greater the water's turbidity.

9. **n-Hexane extractions**

This term refers to the volume of oils and cleaning fluids extracted from water using the chemical n-Hexane. As used in this report, it denotes the volume of mineral oil extracted using n-Hexane.

10. **Particulates**

Particulates are microscopic solid matter contained in exhaust gas generated as a result of combustion, heating or chemical reaction.

11. **Material balance**

The net of "input" and "output."

Energy Consumption and Resulting CO₂ Emissions (Fiscal 2006)

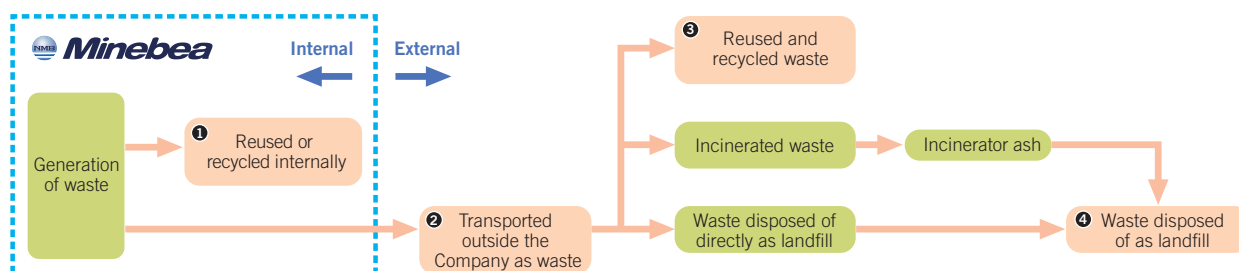
Energy	Unit	Japan	Thailand	China	Singapore	United Kingdom	Germany	United States	Total
Electricity	1,000 kWh	50,772	540,380	94,916	65,336	21,086	2,512	38,001	813,003
Kerosene	Kiloliters	67	0	168	0	0	0	0	235
Heavy oil	Kiloliters	1,261	0	0	0	0	0	0	1,261
Fuel oil	Kiloliters	10	770	278	272	0	0	138	1,468
Gasoline	Kiloliters	29	311	168	60	0	12	4	584
LPG	Tons	370	1,211	67	16	0	0	50	1,714
City gas	1,000 m ³	779	0	0	0	428	131	555	1,893
Water	1,000 m ³	230	2,380	388	199	560	7	90	3,854
CO ₂ emissions	Tons	25,622	325,202	76,248	50,687	10,792	1,535	23,580	513,666

Note: In determining values for use in calculating CO₂ emissions at sites in Japan, Minebea referred to the Greenhouse Gas Emission Calculation Guideline for Businesses, published by Japan's Ministry of the Environment. In determining values for use in calculating CO₂ emissions overseas, Minebea referred to Greenhouse Gas (GHG) Protocol and Clean Development Mechanism and Joint Implementation (CDM/JI) criteria. Although consumption of electricity rose approximately 1.1% from fiscal 2005, ended March 31, 2005, a decline in the consumption of other types of energy resulted in a decline in CO₂ emissions of approximately 0.5%.

Waste¹

	Japan	Thailand	China	Singapore	United Kingdom	Germany	United States	Total
① Reused or recycled internally	127	187	1,663	610	29	0	430	3,046
② Transported outside the Company as waste	1,136	2,908	8,649	6,672	1,077	46	2,350	22,838
③ Reused or recycled externally	265	1,189	6,983	4,718	306	10	2,280	15,751
④ Disposed of as landfill	112	1,719	33	965	771	0	640	4,240

Note: Waste disposed of as landfill declined approximately 12.9% from fiscal 2005.



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

PRTR Number	Chemical	Volume Handled	Emissions			Transfer	
			Released into the Atmosphere	Released into Water	Landfill	Waste	Plant
69	Hexavalent chromium compounds	0.7	0	0	0	0.3	Fujisawa Plant
144	Dichloropentafluoropane (HCFC-225)*	7.4	7.0	0	0	0.4	Karuizawa Plant
232	Nickel compounds	1.3	0	0	0	0.3	Fujisawa Plant

*Scheduled for elimination by the end of 2007.

Glossary

1. Waste

As used in this report, waste refers to industrial waste, that is, unwanted materials from industrial operations, and includes materials with negotiable value and materials to be recycled.

Minimizing Water and Air Pollution

Concentrations in Water

Japan

Karuziwa Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.8–8.6	6.0–8.0	7.7	7.3
COD	40	30	3.4	2.6
BOD	40	30	2.0	0.6
SS	60	55	48.0	15.0
n-Hexane extractions	5	5	<1.0	<1.0

Hamamatsu Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.8–8.6	6.0–8.0	7.5	7.3
COD	40	20	5.6	5.0
BOD	25	20	1.7	1.0
SS	40	25	16.8	4.0
n-Hexane extractions	5	5	<1.0	<1.0

Fujisawa Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.8–8.6	6.6–7.8	7.6	7.2
COD	60	30	7.0	3.4
BOD	60	30	6.0	3.0
SS	90	10	8.5	3.5
n-Hexane extractions	5	2	2.0	<1.0

China

Shanghai Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	6–9	7–8	8.0	7.6
COD	60	20	20.0	13.6
BOD	15	5	4.0	1.4
SS	70	10	9.0	5.0
n-Hexane extractions	3	1	1.0	0.7

Xicen Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	6–9	7–8	8.0	7.7
COD	60	20	18.0	11.0
BOD	15	5	3.0	1.1
SS	70	10	9.0	6.0
n-Hexane extractions	3	1	1.0	0.7

Thailand

Bang Pa-in Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.5–9.0	6.5–8.5	8.0	7.7
COD	120	80	61.7	34.3
BOD	20	18	7.4	3.5
SS	50	20	2.3	2.0
n-Hexane extractions	5	5	2.8	1.6

Lop Buri Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.5–9.0	6.5–8.5	7.8	7.7
COD	120	80	32.0	32.0
BOD	20	18	8.0	6.0
SS	50	20	7.0	5.0
n-Hexane extractions	5	5	3.0	2.0

Rojana Plant (Mg/liter)				
	Limit for Industrial Estate	Voluntary Limit	Maximum	Average
pH	5.5–9.0	6.5–8.0	7.0	6.6
COD	1,250	1,000	356.0	294.9
BOD	1,000	500	66.0	62.8
SS	200	150	25.0	19.9
n-Hexane extractions	10	10	2.2	1.6

Ayutthaya Plant (Mg/liter)				
	Legal Limit	Voluntary Limit	Maximum	Average
pH	5.5–9.0	6.5–8.5	8.1	7.4
COD	120	80	39.8	21.7
BOD	20	18	3.0	3.0
SS	50	20	1.6	0.6
n-Hexane extractions	5	5	1.0	0.8

Concentrations in Air

Karuziwa Plant (Absorption 600-ton boiler)					
	Unit	National Limit	Voluntary Limit	Maximum	Average
Particulates	g/m ³ N	0.3	0.25	0.016	—
NO _x	ppm	180	150	64.0	—
SO _x	m ³ N/h	1.2	1.0	0.19	—

Fujisawa Plant (Sectional hot water boiler)					
	Unit	National Limit	Voluntary Limit	Maximum	Average
Particulates	g/m ³ N	0.3	0.15	—	<0.001
NO _x	ppm	150	80	36.4	36.0
SO _x	m ³ N/h	0.525	0.250	0.005	0.005

Hamamatsu Plant (Absorption chiller heater)					
	Unit	National Limit	Voluntary Limit	Maximum	Average
Particulates	g/m ³ N	0.3	0.2	—	<0.01
NO _x	ppm	180	100	68.0	64.0
SO _x	m ³ N/h	—	—	—	—

Note: The Karuziwa Plant scrapped its boiler during fiscal 2006. Accordingly, concentrations were measured only once during the period, rather than twice, as required by law, and concentrations thus measured have been entered as maximum.



Wastewater treatment facility, Shanghai Plant (China)