Initiatives for Effective Use of Resources

As a global citizen, the Minebea Group is working to recycle 100% of plant waste water, reduce waste, and recycle raw materials to achieve effective use of limited natural resources.

Basic Approach

The Minebea Group attempts to make efficient use of resources in both product design and manufacturing processes.

We believe that, with regard to product design, making products smaller and lighter, and primary assembly easier is important, and we therefore evaluate our designs on these variables when conducting design reviews of each product.

Additionally, in manufacturing, we recycle and make effective use of materials by improving the yield rates.

Results of Initiatives in FY2009

In FY2009, the main materials used by the Minebea Group were steel: approximately 54,000 tons, and resin: approximately 6,000 tons. Due in part to the global recession, use of both materials was down more than 30% in comparison to figures for FY2007.

Initiatives at Facilities

Making briquettes from swarf

Minebea recycles the steel swarf created in manufacturing processes at new cutting plants in Thailand.

As a great deal of oil is contained in the swarf used during cutting, in order to improve transportation efficiency, the oil is removed using an in-house compression device in the plant, and handed over to a recycling contractor in a compressed form (briquettes).

Equipment for recovery and compression of swarf

Swarf in briquette form

Recycling runner from resin molds

When performing injection molding of resin(1), the areas where resin flows into the mold to become the product, called the runner, is a requirement. Although this area becomes unnecessary when it cools and hardens, it is made of exactly the same material as the product itself. If these runner areas, along with defective molds, are within the bounds permitted for UL (Underwriters Laboratory) certification, where customers give permission to do so, these materials are recycled.

Resin pellet containing a mix of virgin and recycled materials

Un-needed runner pieces after injection molding

Periodic audits of waste disposal contractors

Waste generated by the business activities of enterprises must be dealt with appropriately until finally disposed of by a contractor.

As part of its responsibilities as producer of waste, Minebea provides a regular written definition of the contractor to whom disposal is entrusted, and the location in which it is disposed.

Thailand / Periodic audit of hazardous landfill disposal sites

Glossary

(1) Injection molding : A method of molding in which resin is heated until it melts, then forced into a mold at high pressure, and finally cooled until it hardens. This method is suitable for mass producing products with complicated shapes.

Reducing waste

Although the Minebea Group makes every effort to reduce the amount of waste generated through business activities, at present it is difficult to reduce the amount produced to zero. We work to minimize the volume finally disposed of to landfill, by recycling waste produced as thoroughly as possible through waste treatment processing.

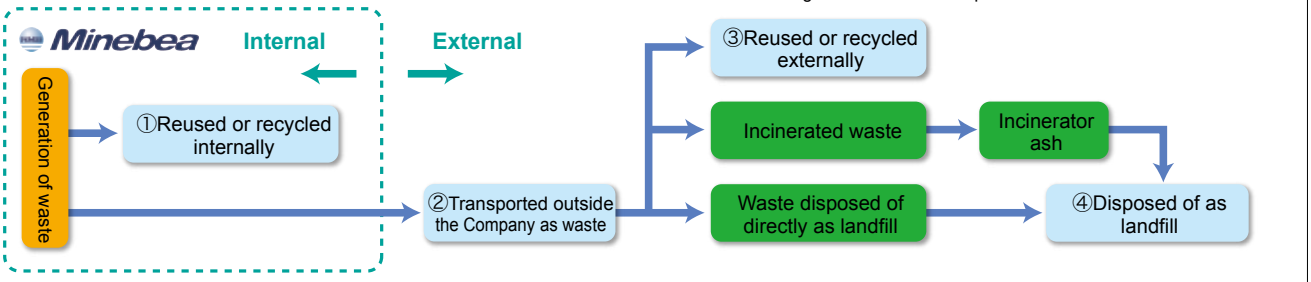
However, treatment methods may vary due to the conditions in different countries, even though the waste itself is the same. In FY2009, the entire Minebea Group emitted approximately 36,557 tons of waste outside its facilities, of which an estimated 4,900 tons (13%) was disposed of to landfill.

Waste processed in FY2009

(Unit:Tons)

Classification	Japan	Thailand	China	Singapore	United Kingdom	Germany	United States	Slovakia	Total
Reused or recycled internally	0	868	1,419	76	30	0	783	0	3,176
Transported outside the Company as waste	1,478	22,318	7,758	2,929	460	46	1,447	121	36,557
Reused or recycled externally	1,044	18,581	6,643	2,071	164	36	625	90	29,254
Disposed of as landfill	42	3,737	111	536	44	1	434	8	4,913

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



Reducing water usage

The Bang Pa-in Plant in Thailand and the Shanghai and Xicen Plants in China have implemented the "Plant wastewater zero system," under which plant wastewater is purified to the same quality as municipal water for reuse, and now recycle 100% of the wastewater they produce.

Additionally, plants are now introducing rainwater recycling systems sequentially, and investing their efforts in effective use of water resources.

The rainwater recycling facility and reservoir at the plant in Bang Pa-in, Thailand

Glossary

(2) Waste : As used in this report, waste refers to industrial waste, that is, unwanted materials from industrial operations, and includes materials to be recycled

Initiatives for Logistics

Stretch films have traditionally been wound around cardboard or plastic cases on pallets to prevent collapse of cargo during transportation. Stretch films were used only once and then thrown away. Minebea now uses reusable bands to prevent collapse of cargo during transportation between Minebea plants and warehouses instead of using disposable films. The bands can be used approximately 1,000 times.

Reusable bands for preventing loads collapsing

Future Issues and Goals

Minebea is proceeding with initiatives to use resources effectively and prevent the creation of waste, aiming to achieve zero emissions (zero disposal of waste to landfill) at all facilities.

Initiatives for Reducing the Effect on the Environment

Water, air, and soil pollution stemming from effluent and emissions from plants is problematic for communities in the surrounding areas.

With a goal of becoming an enterprise that coexists with the regions in which it is located, the Minebea Group believes that waste reduction is an issue that will always need to be addressed.

Basic Approach

To comply with environmental laws in each country at region, each plant in the Minebea Group sets its own standards that exceed legal requirements and observes them on a daily basis. Additionally, employees conduct patrols to check that there is no change in color or unusual odor around our plants.

Results of Initiatives in FY2009

In FY2009, monitoring did not find any abnormalities in water or atmosphere quality at any Minebea plants. Furthermore, there have been no complaints regarding these matters.

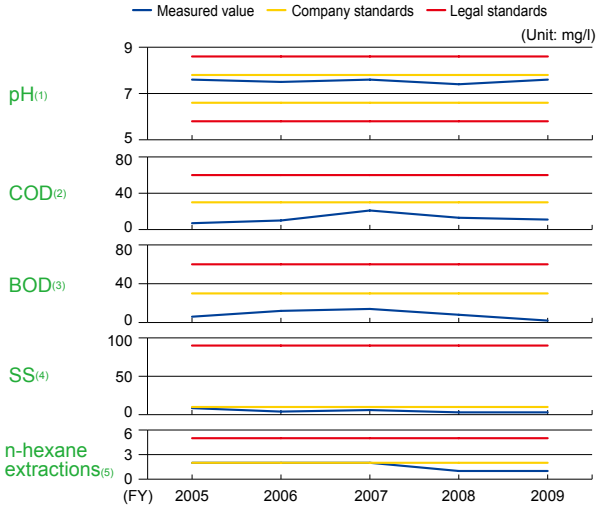
Initiatives at Divisions

Preventing water pollution

Plants with special facilities designated by law, which use substances with an environmental impact in business activities and subsequently dispose them into the public water supply, must be equipped with wastewater treatment equipment, and emit it after purification.

Prompted by the expansion of its fastener plant, Minebea's Fujisawa plant conducted repairs on its wastewater treatment equipment, reinforcing observation systems and increasing the capacity of its dikes, and improving emergency procedures with regard to environmentally harmful substances.

Monitoring of water quality at the Fujisawa Plant



Wastewater treatment facility at the Fujisawa plant

Prevention of air pollution

In April 1993, the Minebea Group became the first bearing manufacturer in the world to completely eliminate specified chlorofluorocarbons and ethane from its cleaning processes, and has worked from an early stage to prevent air pollution. In 2008, as specified on P25 of "Initiatives against Global Warming," we converted our boiler fuel from type “A” heavy oil to city gas, contributing to a reduction in the emission of dust, nitrogen oxide, and sulphur oxide into the atmosphere.

Glossary

(1) pH:
A scale indicating whether substances are acidic or alkaline. pH7 is neutral. The lower the number below 7, the more acidic the substance.The higher the number above 7, the more alkaline the substance.

(2) COD: Chemical Oxygen Demand
The amount of oxygen consumed to oxidize of organic substances (dirt) in water. Measuring COD takes less time than to measure BOD, but is less reliable. COD is generally used in wastewater management for sea, lake, and marsh water.

(3) BOD: Biological oxygen demand
The amount of oxygen consumed for bacteria to consume and decompose organic matter (dirt) in water.
The larger the BOD, the dirtier the water. Measurement takes several days. BOD is generally used to observe effluent water in rivers.

(4) SS: Suspended solids
The volume of substance suspended in water. The larger the number the greater the degree of water pollution.

(5) n-hexane extractions:
A substance called n-hexane, extracted from oils and detergents that are difficult to volatilize in water. In this report they signify mineral oils.

Management of PRTR-controlled substances (Japan)

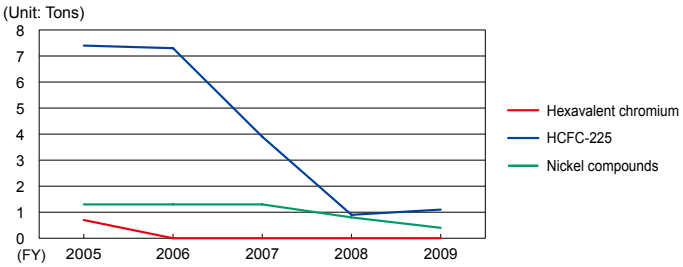
Reported results for FY2009

(Unit: Tons)

Control number	Substance name	Handling volumes	Emission volumes			Transfer volumes
			Air	Water	Landfill	Waste
144	HCFC-225	1.05	0.97	-	-	0.08
232	Nickel compounds	0.4	-	0.03	-	0.26

Each facility in Japan manages the handling and transfer volumes of PRTR-controlled substances, in accordance with the PRTR (Pollutant Release and Transfer Register) law.

PRTR substance transaction volumes



Initiatives against soil and groundwater contamination

Some facilities in the Minebea Group have, in the past, caused contamination of soil and groundwater. Although much of this contamination was due to VOCs (volatile organic compounds), some facilities caused soil contamination due to heavy metals. Cleanup work of contaminated plants and plant sites is proceeding under Minebea's auspices.

One such location is the municipal land that we leased from Kanegasaki town in Iwate Prefecture, where cleanup was completed in March 2010. A meeting explaining the completion of the cleanup work was held in May.

The meeting held regarding the completion of cleanup work in Kanegasaki town,Iwate Prefecture (May, 25, 2010)

Future Issues and Goals

Minebea continues to conduct business operations in compliance with environmental law in Japan and around the world, and is proceeding with cleanup work in areas where it has caused environmental contamination in the past.