

# Reduce Waste/Prevent Air, Ground and Water Pollution

## Reduce Waste

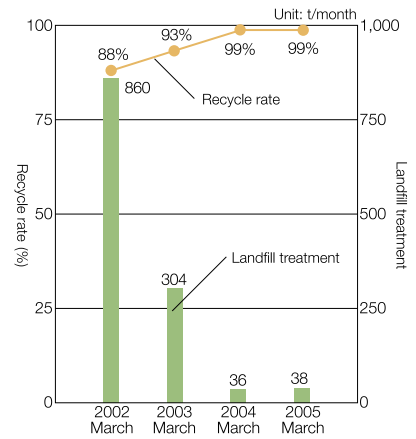
At NTN, we defined "zero emission" as a recycle rate of 98% or more and we have promoted efforts in waste reduction. Last year, of the ten domestic operating sites where we set zero emission as a target, we were able to realize zero emission at all the sites. However, we were not able to achieve zero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

Concerning the achievement of zero emission at each operating site,

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

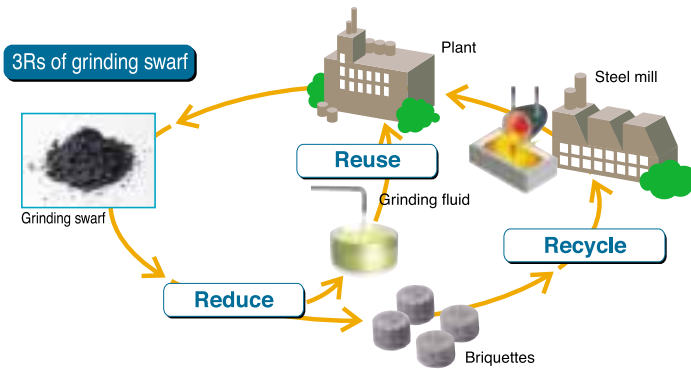
In fiscal 2005, we will actively advance our efforts to maintain and achieve zero emission and spread our efforts to our overseas sites and suppliers.

■ Recycle rate and amount of landfill treatment



### ● New release of ultra compact grinding swarf briquetting machine

NTN released an ultra compact grinding swarf briquetting machine (GSB-15S) that has an installation area that is 40% of the conventional equipment. By meeting our customers' needs such as price, processing power and installation area, we are able to compete with conventional equipment.

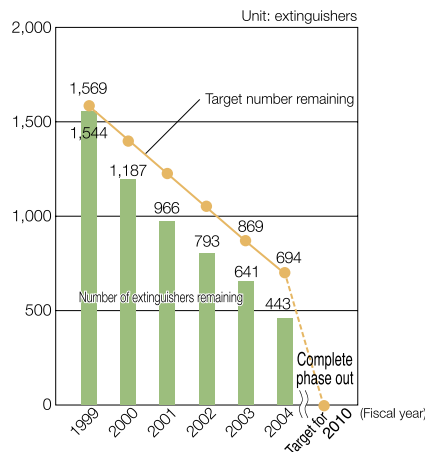


## Efforts to Prevent Air Pollution

### ● Going forward with our plan to completely phase out halon extinguishers

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

■ Number of halon extinguishers remaining



### ● Efforts to phase out coolants containing chlorine

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

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

## Efforts to completely decontaminate ground

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

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

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

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

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

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



Ground gas investigation



Ground water remediation equipment



Ground water analysis

## Environmental Conservation Activities

### Promotion Activities to Protect Resources

#### Reduction of packing materials

##### 1 Reduction of the use of Styrofoam

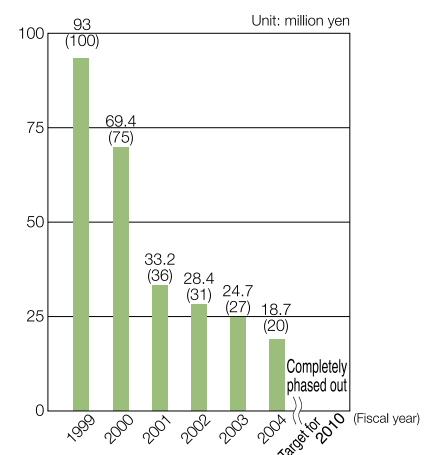
Last year we reached a 79% reduction (compared with our longterm target of 75%) compared to fiscal 1999.

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



"Oka Pack"

#### Trends in Amount of Styrofoam used



Figures in parentheses indicate percentages of the basic figure, 100, in 1999.