

## Zero emission of industrial wastes

We at Kubota promote zero emission regarding wastes which generate as a by-product of our business activities, considering 3R.

In fiscal 2001, the amount of industrial wastes discharged was 100.464 thousand ton on an unconsolidated basis, reducing it by 23% compared with the previous year. We excessively achieved the goal of 10%. And amount of landfill waste reduced by 69%, compared with the previous year, to 10.079 thousand ton. In addition, we sold 51.562 thousand ton as valuable substances. As a result of efforts to recycle these wastes, our recycling rate increased by 8.9 points, compared with previous year, to 96.0 %.

The plants achieved zero emission are following nine plants, namely Funabashi, Okajima, Sakai coastal, Naniwa, Utsunomiya, Tsukuba, Kyuhoji, Ichikawa and Kashima. We are going to achieve zero emission in our whole plants by the end of fiscal 2005.

We are now going to tackle activities in our affiliates, setting up the values of goal.

### Goals for generation control, reduction of discharged amount and zero emission of industrial wastes ( on an unconsolidated basis )

#### Goal for zero emission

Definition : the amount of landfill waste shall be " zero " inside and outside of the company

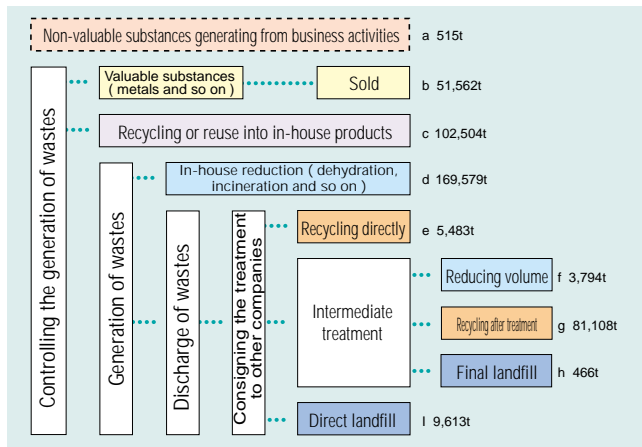
- " zero " means that the amount of landfill waste should be less than 1% of wastes discharged, in general
  - Only wastes discharged by the company concerning, are targeted.
- Our goals : Cast iron products manufacturing plants and machinery manufacturing plants: by fiscal 2003

Other plants: by fiscal 2005

#### Goals for generation control and reduction of discharged amount of wastes

We reduce discharged amount of wastes by 10 %, compared with fiscal 2000, in fiscal 2005.

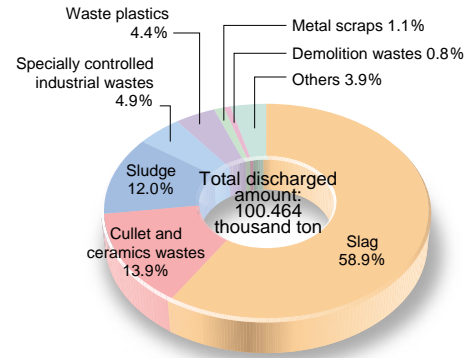
### Flow of recycled resources treatment in fiscal 2001 ( on an unconsolidated basis )



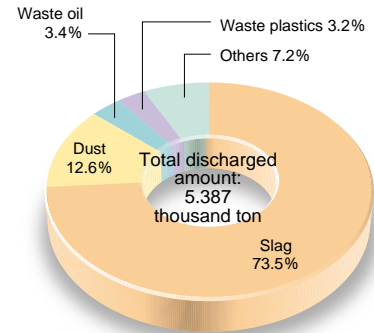
Note ) The calculation of recycling rate was changed partly from this year.  
 • Recycling rate (%)  
 • The amount of reducing volume, recycling after treatment, and final landfill, after intermediate treatment were examined by consigned companies.  
 • The wastes collected at distribution stage are not included.

### Discharged amount of Kubota group's industrial wastes and its breakdown in fiscal 2001

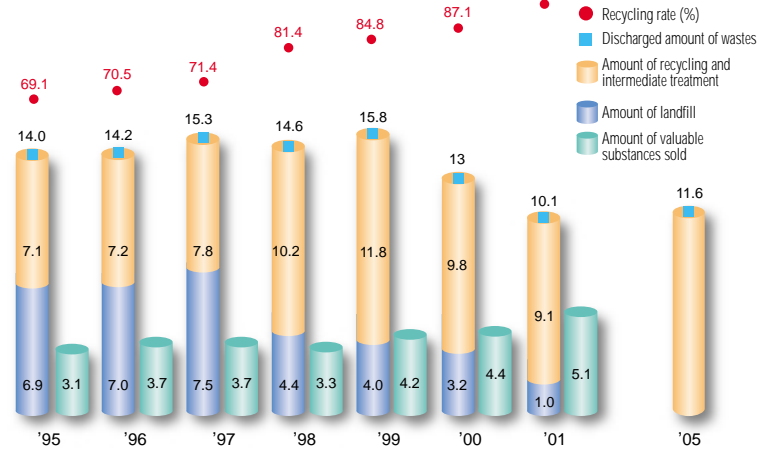
#### On an unconsolidated basis



#### Affiliates



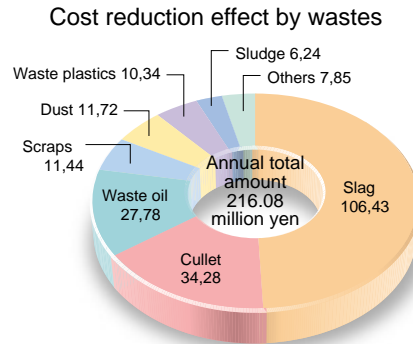
### Transition of the discharged amount of industrial wastes, valuable substances sold, and recycling rate ( on an unconsolidated basis )



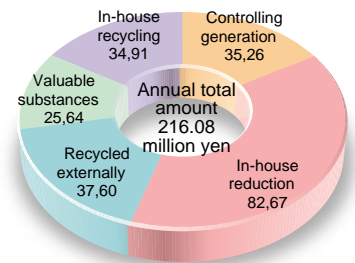
Money effect by 3R ( fiscal 2001 )

Cost reduction effect by 3R ( on an unconsolidated basis )

We achieved cost reduction of 216 million yen a year by the reduction of consigning treatment cost of industrial wastes, by controlling generation, reducing and recycling them, and of raw material purchasing cost, and sale of valuable substances.



Cost reduction effect by measures



Examples of 3R ( Reduce, Reuse and Recycle )

An example of Reduce

Controlling generation of washing wastewater ( Sakai costal plant )  
Exchange frequency of coolant decreased because of the measures shown below. So generation of washing wastewater was controlled.

- ① The decay of cutting oil was prevented by alkaline ionizing it.
- ② Thorough maintenance of the equipment of coolant
- ③ Removing floating oil in cutting oil and washing liquid by oil collecting equipment
- ④ Since floating oil and fine tip are mixed in cutting oil when machining, we improved the cutting oil tank to collect floating oil and sludge simultaneously by oil collecting equipment.

Effect: 121 ton a year



Alkaline ionizing equipment for cutting oil

An example of Reuse

Reuse of gloves and waste ( Okajima plant )  
Waste and leather gloves including oil were treated by the treatment company which treated waste oil as well before. However we started reuse of them by cleaning them in cooperation with the cleaning company. In this way, we controlled generation of wastes, and used resources effectively.

Effect

Waste: 1200 sheets a month

Gloves: 100 pairs a month

Note) Right pieces show after use, left pieces show after cleaning in the photos.



Waste



Leather gloves

An example of Recycling

Recycling of grindstones ( Mukogawa plant )

Waste grindstones were dumped into landfill before. However we conducted measures shown below in cooperation with a grindstone manufacturer.

- ① Since the manufacturer acquired a permission of wide-area treatment, it became able to recycle used grindstones. So we can purchase recycled grindstones.
- ② Sale of waste grindstones as valuable substances to the manufacturer.

Effect: 43 ton a year



Waste grindstones



Recycled grindstones