Zero emission of industrial wastes

We have achieved zero emission in our eleven plants. We have been now promoting to achieve it in our remaining nine plants until fiscal 2005.

We at Kubota promote zero emission of wastes which generate as a by-product in our business activities by considering 3R (Reduce, Reuse, and Recycle).

In fiscal 2002, the discharged amount of industrial wastes was 114.502 thousand ton, reduced by 16% compared with fiscal 2000. And direct landfill amount of wastes was 9,432 ton, reduced by 74% compared with fiscal 2000. As a result of efforts to recycle these wastes, our recycling rate increased by 8.8 points compared with fiscal 2000, to 95.9 %.

The plants achieved zero emission are following eleven plants, namely Keiyo-Funabashi, Okajima, Sakai coastal, Naniwa, Utsunomiya, Tsukuba, Kyuhoji, Keiyo-Ichikawa, Kashima, Ohama, and Hanshin branch office in Head office. We are going to achieve zero emission in our whole plants by the end of fiscal 2005.

We have been tackling the activities in our affiliates since fiscal 2002, 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 our company

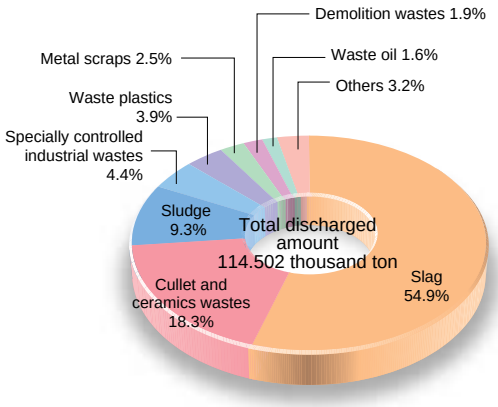
- "zero" means that the amount of landfill waste should be less than 1% of wastes discharged, in general
- Only wastes discharged by the company concerning, are targeted.

Our goals: Cast iron products manufacturing plants and machinery manufacturing plants: by fiscal 2003
Other plants: by fiscal 2005

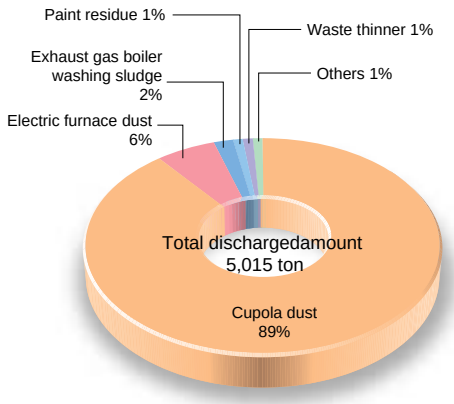
Goals for generation control and reduction of discharged amount of wastes

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

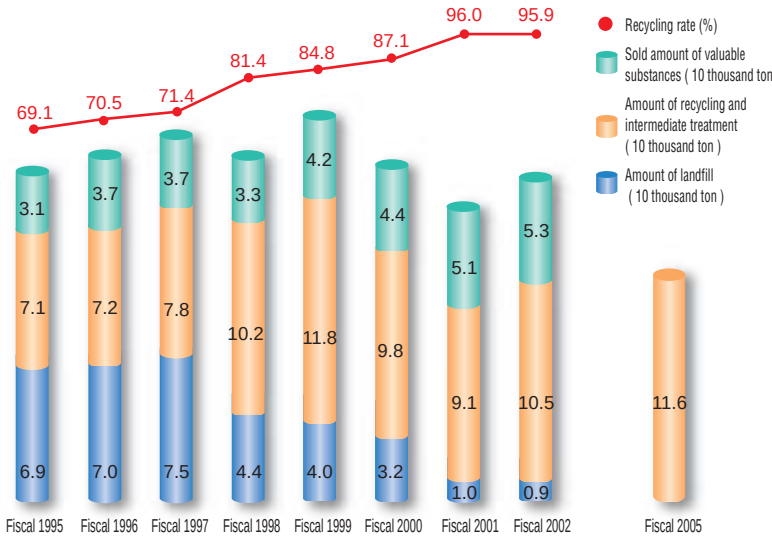
Discharged amount of industrial wastes and its breakdown



Breakdown of specially controlled industrial wastes

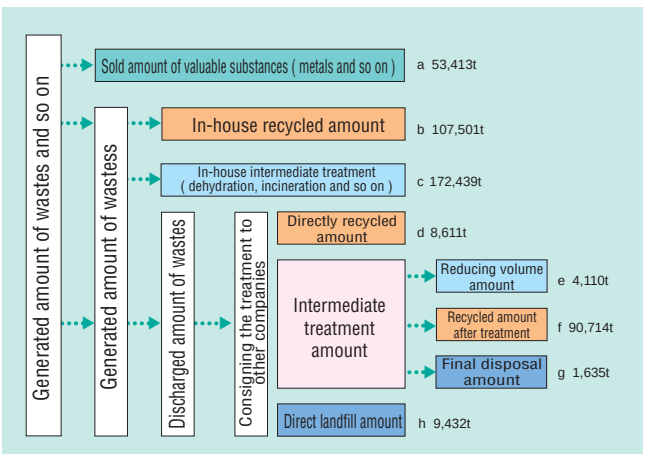


Transition of the discharged amount of industrial wastes, sold amount of valuable substances, and recycling rate



Dada is on an unconsolidated basis until fiscal 2001.

Treatment flow of recycled resources



Note)・Recycling rate (%)=(a+b+d+f)÷(a+b+d+f+g+h)×100

・The amount of reducing volume, recycling after treatment, and final disposal, after intermediate treatment were examined by consigned companies.

・The wastes colleted at distribution stage are not included.

Cost reduction effect by 3R

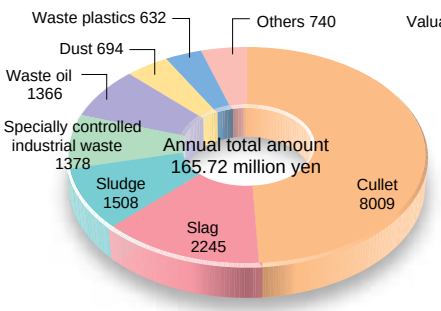
We achieved cost reduction of approximately 166 million yen a year by the reduction of consigning treatment cost of industrial wastes by controlling generation of them, reducing and recycling them, by the reduction of raw material purchasing cost, and by the sale of valuable substances.

Collection and recycling results of waste products

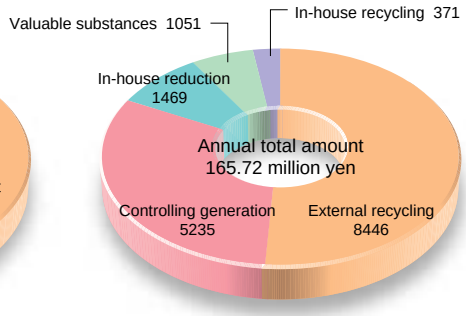
Products	Collected amount (ton)
Cast iron pipes	3,230
Roofing materials	572
Siding	205
Vinyl pipes	6

Money effect by 3R

Cost reduction effect by waste



Cost reduction effect by measures



"An example of reducing and recycling wastes in Kyuhoji plant "

(Received a chairman award of promoting committee of reduce, reuse and recycle in fiscal 2002)

Kind of wastes	Before improvement	After improvement
1. Used paper (waste paper, corrugated card board and so on)	Landfill disposal after incineration	Recycled as the material of used paper in paper manufacturing company
2. Small pieces of wood	Landfill disposal after incineration	Recycled as the material of paper or fuel of boiler after shredding into chips
3. Waste plastics (tarpaulin-shaped plastics and so on excluding chlorides)	Landfill disposal	Recycled as the reducing agent of blast furnace in steel making company or fuel of boiler after volume reduction, shredding and particle standardizing
4. Waste plastics (bulky, rubbers and so on)	Landfill disposal	Thermally recycled as electric power for the treatment facilities after shredding and incineration
5. Waste plastics (domestic plastics and so on)	Landfill disposal	Thermally recycled as electric power or heat source for warm-water swimming pool at the city-owned incinerators
6. Waste plastics (waste equipments for office automation)	Shredding and incineration treatment	The cathode-ray tubes are recycled as the material of glass, the plastics are recycled as the material of plastics after disassembling, shredding and recovering noble metals.
7. Cullet	Landfill disposal	Recycled as the material of glass after sorting and shredding at the city-owned treatment facilities
8. Cullet (waste fluorescent lamps)	Landfill disposal	Mercury is recovered by roasting method, and glass is recycled as the material of glass wool.
9. Waste oil (waste liquid of drain from compressors)	Incineration treatment	Waste liquid of drain from compressors is filtered by the oil separator. The disposal amount of industrial wastes is reduced by 99.4%.
10. Waste oil (waste lubricant)	Incineration treatment	Waste oil is filtered by the industrial waste treatment company dedicating itself to waste oil, and is sold as oil again.
11. Packing tray for ICs	Incineration treatment	They are reused as the reusable boxes for transportation for electronics parts such as IC and so on.

Waste liquid of drain from compressors is filtered using the oil separator.

Volume reduction machine

Oil separator

Recycled to fuel

Reducing the volume of waste plastics by the compressing volume reduction machine

Collected waste plastics

Shredded wooden chips