

# Industrial Waste Reduction

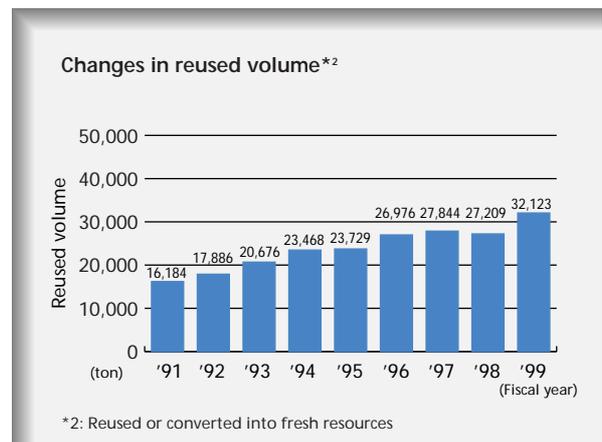
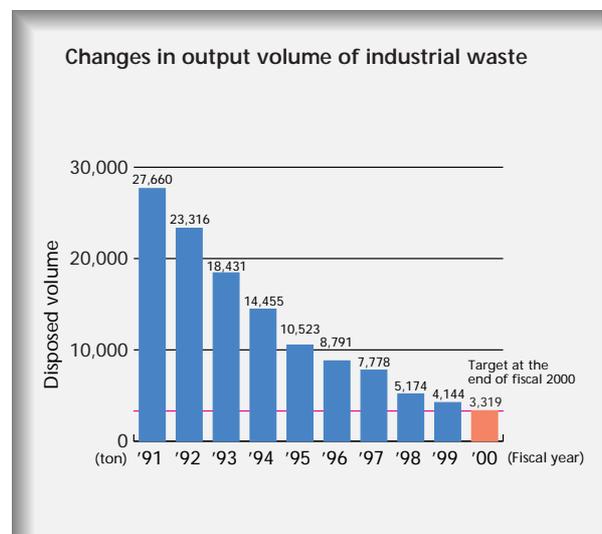
In line with its corporate aim of reducing industrial waste output by 88% from its actual fiscal 1991 level by the end of fiscal 2000, Fujitsu is working to lessen the amount of industrial waste (waste acids and alkalis, waste paper, waste plastics and waste oils) produced by its factories, and to reuse them more effectively.

## Industrial waste reduction measures

The total volume of industrial waste output\*<sup>1</sup> in fiscal 1999 amounted to 4,144 tons, 19.9% less than the previous year and 85% below the actual fiscal 1991 level. Thus, by the end of fiscal 1999, the target of a total reduction of more than 83% was achieved.

\*1: Amounts entrusted to disposers

Targeted waste			
● waste acids and alkalis	● metal scraps	● waste plastics	● sludge
● waste paper	● cinders	● wood chips	
● waste glass	● waste oil	● fiber scraps	
● glass and ceramic shards			



## Principal waste reduction measures

Reductions at source:

- Internal waste acid processing to render non-toxic: ..... Kanuma Plant (120 tons)
- Internal hydrofluoric acid processing to render non-toxic: ..... Iwate Plant (124 tons)

### Reuse of waste materials

- Use of desiccated sludge from paint scraps as a raw material for cement: ..... Oyama Plant (14 tons)
- Use of waste plastics as fuel: ..... Oyama Plant (50 tons)

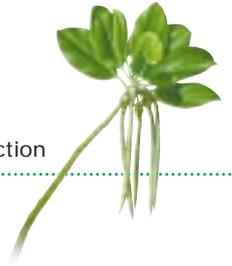
## Investment

Total of ¥63 million in equipment

- Construction of equipment for internal processing of waste acids: ..... Iwate Plant (¥46 million)
  - Crushing/pulverization equipment for waste plastics: ..... Nasu Plant (¥6.9 million)
- etc.

## Principal plans for fiscal 2000

- Substitution of waste alkali for incinerator cooling water ..... Nagano Plant (150 tons)
- Production of organic fertilizer from kitchen garbage — development of system at other sites: ..... Minami-Tama Plant, Kumagaya Plant



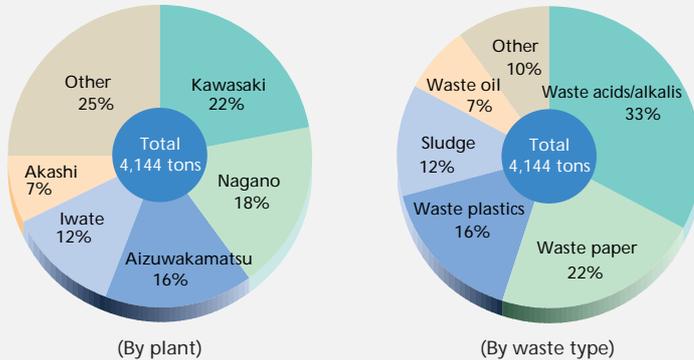
**Comment**

In March 2000, we became the first Fujitsu plant to achieve zero-emissions of waste materials. Prior to this, we had already eliminated the production of waste materials in manufacturing processes through recycling programs. By improving our processing equipment to allow us to convert kitchen garbage and organic sludge into organic fertilizer, we were able to achieve our goal. At the moment, this fertilizer is used in fields and vegetable gardens in the plant grounds, but from 2001 onwards we plan to start supplying local farmers too. We also plan to use the produce in the plant cafeteria.



Motoo Chiya  
General Manager, Numazu Plant

**Volume of disposed waste (Fiscal 1999)**



Internal treatment of hydrofluoric acid (Iwate Plant)

**Zero-emission Activities**

Fujitsu aims to achieve zero-emissions (defined as 100% reuse of any waste output from a site, so that no material is sent to a landfill) at 15 sites by the end of fiscal 2003. In fiscal 1999, the Numazu Plant and the Akashi Plant achieved zero-emissions.



Organic fertilizer production system (Numazu Plant)

**Targeted zero-emission wastes**

- waste acids and alkalis
- waste plastics
- waste oil
- animal/vegetable matter (kitchen wastes)
- purified sludge
- metal scraps
- glass and ceramic shards
- wood chips
- fiber scraps
- waste paper
- sludge

**Reuse of kitchen waste in organic fertilizer\*3**

In fiscal 1999, through tie-ups with organic farms, the staff cafeterias at 2 Fujitsu plants began reusing their kitchen wastes as organic fertilizer, resulting in the production of around 4 tons of cabbage and 0.5 tons of lettuce. As well as being used in the cafeterias, these vegetables are also being sold to Fujitsu employees. The plan is to expand the volume and scope of this system in fiscal 2000, by broadening the range of vegetables produced and by extending the scheme to other manufacturing sites, notably the Minami-Tama and Kumagaya plants. The aim eventually is to make this a company-wide recycling initiative.

\*3: Implemented at Oyama Plant and Numazu Plant

**Recycling system for kitchen garbage**

