# **Zero Waste Emission** (Waste Reduction)

# Enhancing efforts toward 3R and aiming at early achievement of Group-wide zero waste emission

#### **Policy**

The Fujitsu Group encourages individual employees to implement waste separation activities aimed at early achievement of zero emission and more sophisticated 3R efforts under its basic 3R (Reduce, Reuse, Recycle) policy.

#### Fujitsu Group Environmental Protection Program (Stage IV) target

To reduce the amount of waste generation by 3% from its actual amount of fiscal 2003 by the end of fiscal 2006.

# Fujitsu Group's zero emission concept

## Stepping up from zero emission to curbing generation, from manufacturing to non-manufacturing

All Fujitsu's manufacturing bases had achieved zero waste emission as of fiscal 2002. Among domestic Group companies, 3 sites had achieved zero waste emission by fiscal 2003, and our progress continues. We will promote activities aimed at reducing our waste generation volume, focusing on reexamination of packing materials in the procurement stage and improving our

manufacturing processes. We have also extended the sphere of activity beyond manufacturing bases to non-manufacturing bases. The activities are directed by our own jurisdictional facilities at our nonmanufacturing bases.

#### Waste generation volume reduction

- · Definition: Reduction of waste volume generated by sites
- Targeted waste: All waste (without monetary value)

#### Zero waste emission

- Definition: Zero landfill or simple incineration through 100% effective waste utilization
- Targeted waste: Sludge, waste acid/alkali, plastic waste, waste oil, metal waste, glass waste, wood waste, wastepaper, animal and plant residue (kitchen waste), purification tank sludge

#### **Structure**

# Zero waste emission working groups

Efforts to upgrade the 3Rs include biannual meetings of zero waste emission working groups to examine the issues for each site and promote information sharing. We also encourage waste information sharing among our suppliers through our internal intranet.



<sup>\*</sup> Fujitsu Round Collect System

#### Results

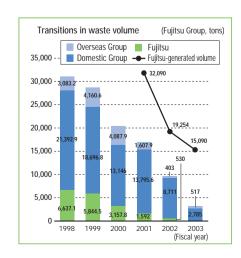
#### Fujitsu Environmental Protection Program (Stage III) targets

- Waste to be cut 60% by Fujitsu Group by the end of fiscal 2003 based on fiscal 1998 results
- Zero waste emission to be achieved by Fujitsu by the end of fiscal 2003

# Fiscal 2003 results and analysis

The Group recorded a waste volume of 3,302 tons, an 89% reduction from fiscal 1998, and Fujitsu recorded a waste volume of 15,090 tons, a 22% reduction from the previous fiscal year. Our waste reduction activities are progressing smoothly. Factors contributing to waste reduction included intensified efforts toward zero

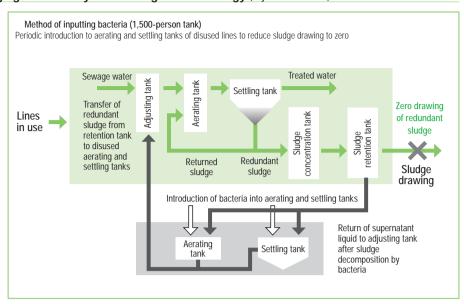
emission by Fujitsu's domestic Group and generation volume reduction through the introduction of bio-technologies to resolve purification tank sludge. Structural reform implemented in recent years is another factor.



#### **Waste Generation Reduction Case Studies**

#### Realization of zero purification tank sludge generation by introducing bio-technology (Fujitsu Nasu Plant)

With purification tank sludge the only remaining issue for zero waste emission, the Nasu Plant began using bio-bacteria to resolve purification tank sludge in fiscal 2003 after careful examination of appropriate applications. Stable functioning of the bio-bacteria, which respond to changes in the water treated in the purification tank, has prevented sludge generation for one year. This zero generation of purification tank sludge compares to 151 tons in fiscal 2002. The Fujitsu Group was the first to introduce trials of this technology, which we are now introducing at other sites and affiliated companies. We are also examining the possibility of diverting the technology to other waste and implementing demonstration experiments for organic waste solutions.



# **Group company zero** emission effort case study

Realization of approximately 50% profitization of waste plastics, zero emission achievement a year ahead of schedule

(Fujitsu Isotech)

Fujitsu Isotech generates over 3,000 tons of waste annually, primarily comprising packaging materials, in its PC and IA server operations. Activities and measures introduced to reduce waste generation enabled it to achieve zero emission a year ahead of schedule. In the area of waste plastics, especially, decomposing and separation based on 10 varieties of ingredients and materials enabled profitization (recycling) of approximately 50% of waste plastics discharged by the plant.

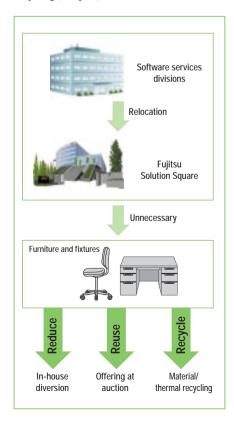


# Non-manufacturing site waste reduction effort case study

#### Implementation of 3Rs for redundant furniture and fixtures

(Fujitsu Solution Square)

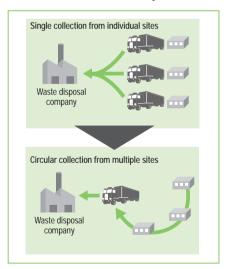
Approximately 22,000 (700 tons) of unneeded furniture and fixtures were generated with the transfer of software services divisions to Fujitsu Solution Square. We achieved zero emission of these items through in-house diversion (Reduce), offering at auction (Reuse) and material and thermal recycling (Recycle).



## Other case studies

#### Implementation of FRCS at three sites

FRCS (Fujitsu Round Collect System), in which trucks visit several nearby sites to collect waste formerly delivered individually to waste disposal companies from each site, was implemented in the Kawasaki, Minami-Tama and Akiruno areas. Anticipated effects include CO2 emissions reduction due to decreased use of waste delivery vehicles.



# Response to illegal dumping

We responded to an information reference from a relevant authority concerning illegal dumping of waste involving our products. Although free from direct responsibility, we conducted an investigation concerning the contents and reported the results.

· Illegal dumping of logo plates at a city collection point, illegal retention of consigned waste plastics, illegal storage of paint cans for manufacture-consigned products