

Chemical Emissions Reduction

Reinforcing chemical emissions reduction through comprehensive monitoring and proper management, from manufacturing to discharge treatment

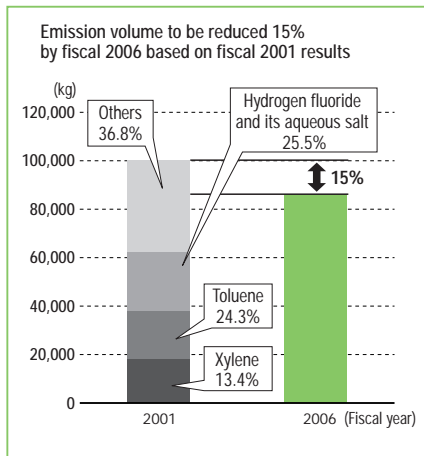
Policy

Every Fujitsu Group company conducts comprehensive reviews and monitoring of its wastewater treatment equipment operating conditions and works to reduce chemical substance use through proper management. While disclosing balance collation data for chemical substances targeted by the PRTR Law*1, we are continuing to consolidate management of chemical substance data, making full use of IT and risk communication with customers.

Fujitsu Group Environmental Protection Program (Stage IV) target

To reduce the discharge of chemical substances those are subject to the Pollutant Release and Transfer Register (PRTR) by 15% from their actual discharge of fiscal 2001 by the end of fiscal 2006.

Structure



We determined PRTR Law target chemical substances as our reduction substances and are striving for target achievement by the Group as a whole.

We formulated individual plans to reduce PRTR target substances (Class I designated chemicals, 354 substance groups) for Fujitsu's manufacturing bases*2 and consolidated manufacturing subsidiaries*3 through proper use of chemical substances in manufacturing processes and proper management of exhaust gases and wastewater treatment equipment, and are promoting Group-wide efforts.

*2 Fujitsu manufacturing bases (5 bases)

*3 25 companies among domestic consolidated manufacturing subsidiaries, 2 companies among overseas consolidated manufacturing subsidiaries

Results

Fujitsu Environmental Protection Program (Stage III) target

• Release of main chemicals to be cut 30% by the end of fiscal 2003 based on fiscal 1998 results

Fiscal 2003 Results

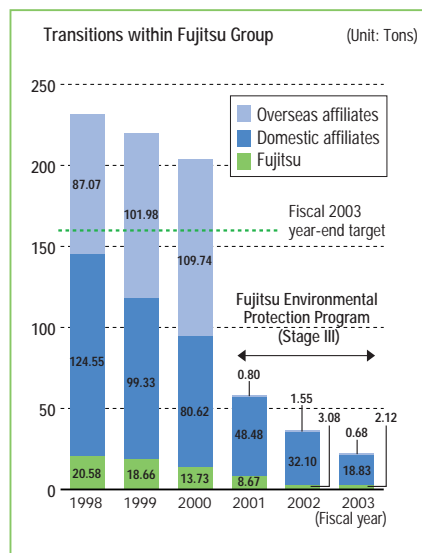
We achieved a reduction of 140.9 tons with respect to the Group target value of 162.5 tons through reexamination of business activities, transfer of manufacturing activities and efforts by individual bases. Stage III target met.

The total Group emission volume*4 was 21.6 tons for fiscal 2003, a 90.7% (210.6 tons) reduction based on fiscal 1998 results. Fujitsu's emission volume was 21 tons, an 89.7% reduction based on fiscal 1998 results. Target met.

(Emission results: 232.2 tons for fiscal 1998, 162.5 tons for 2003)

*4 Calculation of chemical emissions reduction
Values are calculated by multiplying the total volume of effluent (nickel, manganese and other chemical compounds) or atmospheric emissions (xylene, toluene and other chemicals) by the relevant substance concentrations measured at the points of discharge from the site. Values for xylene, toluene

and other chemicals may also be based on the amounts of chemicals purchased and used.



Major efforts in Fujitsu Environmental Protection Program (Stage III)

- (1) Optimal management of organic solution absorption temperature and change of absorption activated charcoal
- (2) Reduction of usage volume of chemicals containing toluene through development process change.
- (3) Reuse of nickel sulfate by activated carbon treatment
- (4) Review of wastewater treatment equipment operating conditions, equipment renewal/renovation
- (5) Change of mixed solution ratio
- (6) Introduction of exhaust air collection devices

Risk communication measures

We publicize must-know information to every Fujitsu Group manufacturing base as well as preparing structures for responding appropriately to inquiries from local residents and product users.

*1 See definition on page 67.

Results and analysis of Fujitsu Environmental Protection Program (Stage III)

Stage III analysis

Although a reduction resulting from changes in the business structure also made a contribution, positive development of technologies and know-how for emissions reduction by individual Group companies was instrumental in enabling six Fujitsu sites, all except four overseas bases, and 11 domestic affiliates to achieve their Stage III targets.

Key chemical substances (17)

- Xylene
- Toluene
- Nickel and its compounds
- Copper compounds
- Formaldehyde
- Fluorine compounds
- Hydrazine derivatives
- Phenols
- 3,3-dichloro-4,4-dimainodiphenylmethane
- Manganese compounds
- Lead compounds
- Bromine compounds
- Cadmium compounds
- Chromium compounds
- Arsenic compounds
- Cyanide compounds
- Phosphine

* List excludes substances whose further reduction would be technically difficult (such as fluorine compounds in wastewater at Japanese sites, where appropriate wastewater treatment measures are already in place).

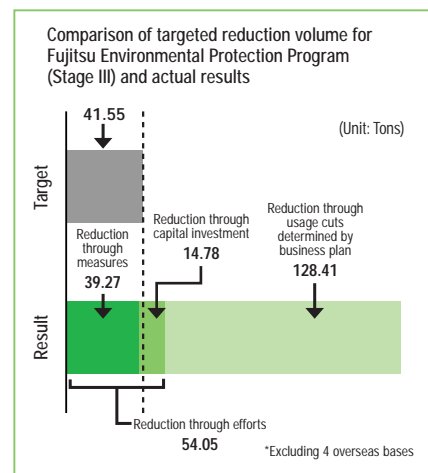
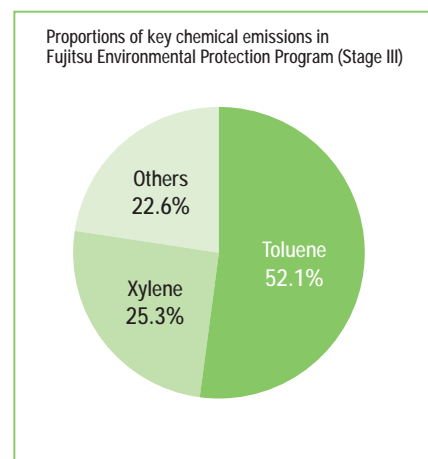
General overview of Fujitsu Environmental Protection Program (Stage III)

| Emission volume reduction breakdown | Fiscal 2001 results | Fiscal 2002 results | Fiscal 2003 results | Monetary investment (total) |
|-------------------------------------|---------------------|---------------------|---------------------|-----------------------------|
| Emission volume (unit: tons) | 57.95 | 36.73 | 21.63 | 410,300,000 yen |
| Reduction volume (tons) | 174.25 | 195.47 | 210.57 | |
| Comparison with fiscal 1998 | | | | |
| Reduction rate (%) | 75.0 | 84.2 | 90.7 | |
| Comparison with fiscal 1998 | | | | |
| Reduction volume (tons) | 146.14 | 21.22 | 15.10 | |

* Numeric values in the text omit figures from the second decimal place.

* Target reduction volume of the Fujitsu Environmental Protection Program (Stage III)

204.09 tons (fiscal 2000 emission volume) – 162.54 tons (fiscal 2003 target emission volume) = 41.55 tons



| Breakdown of emissions volume reduction by fiscal year | | Reduction volume (tons) | Monetary investment | Primary reduction measures |
|--|--|-------------------------|---------------------|--|
| Fiscal 2001 | Reduction other than through capital investment | 22.63 | 277,800,000 yen | Substitute for targeted substances, optimization of gas tack management, volume used, etc. |
| | Reduction through capital investment | 2.43 | | Renovation/renewal of wastewater treatment facilities, exhaust collection device introduction, etc. |
| | Reduction through usage cuts determined by business plan | 121.08 | | Reduction/elimination of coating goods/printed circuit board manufacturing, transfer/termination of manufacturing lines, reduction of manufacturing, etc. |
| Fiscal 2002 | Reduction other than through capital investment | 10.60 | 53,200,000 yen | Stable gas tack operation, reuse of nickel sulfates through activated carbon treatment, change in mixed solution ratio, shift to substitute thinners, etc. |
| | Reduction through capital investment | 5.00 | | Change in gas tack activated carbon, reduction of development chemical usage volume of through development process change, etc. |
| | Reduction through usage cuts determined by business plan | 5.62 | | Termination of outsourcing, business, transfer/termination of manufacturing lines, reduction of manufacturing, etc. |
| Fiscal 2003 | Reduction other than through capital investment | 6.04 | 6,100,000 yen | Reduction of usage volume, change in mixed solution ratio, change of coating agent |
| | Reduction through capital investment | 7.35 | | Elimination of toluene use through process change, substitute devices, substitutes |
| | Reduction through usage cuts determined by business plan | 1.71 | | Reduction of handling volume due to manufacturing reduction, coating plant closure |

• Reduction targets 17 key chemical substances

• Activity targets 6 Fujitsu plants: Oyama, Nagano, Akashi, Mie, Aizuwakamatsu, Iwate

11 domestic affiliated companies: Fujitsu Access, FDK, Shinko Electronic Industries, Fujitsu Media Devices, Fujitsu Frontech, Fujitsu Ten, Fujitsu Component, Fujitsu Integrated Micro Technology, Aizu Plant, Yamagata Fujitsu, Fujitsu Display Technologies, Shinano Fujitsu
4 overseas affiliated companies: FIESA, FMI, FGPP, FTC

* Current names of targeted consolidated manufacturing subsidiaries at the start of Stage III activities shown.

Response to PRTR Law

Besides complying with the PRTR Law requirement for reporting of data on any of 354 Class I designated chemicals with annual usage/processing exceeding 1 ton to public offices, we compile data on these substances based on a 0.1 ton minimum. The Fujitsu Group and Fujitsu used approximately 3,033 and 534.7 tons of chemicals, respectively, in fiscal 2003. Survey data for PRTR Law-

targeted substances for the Group are reported on our homepage.

<http://www.fujitsu.com/about/environment/>

Calculation of PRTR-targeted substances by chemical management system (eco-HCMS for Internet)

Making use of a chemical management system introduced in fiscal 2000 for balance

reporting in response to the PRTR Law, we have collated MSDS data (constituents, handling methods, relevant laws, etc.) on approximately 5,000 substances to control the chemical usage status of each base and to maintain an overall chemical balance, from purchasing and use to disposal. Individual Group companies are also formulating chemical substances management systems.