

Environmental Activities in Fujitsu Group

Based on the "In all our actions, we protect the environment and contribute to society" statement in the Corporate Values of the Fujitsu Way, we have made environmental protection a top management priority to contribute to the creation of a sustainable environment for future generations. With clear environmental goals set for all our business areas, we conduct our business activities in a well-planned and sustainable manner.

Green Policy 21

We want every employee of the Fujitsu Group to understand the approach, which has applied since our founding, of manufacturing in harmony with nature and to put this approach into practice in their daily work. For this purpose, we have established "Green Policy 21" as a concept to guide our actions a concept that goes beyond any mere statement of intent.

We have adopted as our slogan "We make every activity green," and we put this idea into practice in all areas of our business. Furthermore we have established Fujitsu Group Environmental Policy to promote environmental management that reflects the uniqueness of the Fujitsu Group businesses.

http://www.fujitsu.com/global/about/environment/policy/

Environmental Concept "Green Policy 21"



Fujitsu Group Environmental Activities Overview

Medium-Term Environmental Vision: "Green Policy 2020"

Our medium-term environmental vision "Green Policy 2020" specifies the roles and directions that the Fujitsu Group should

Concepts of the Medium-Term Environmental Vision Green Policy 2020



achieve over the mediumterm period through the year 2020. We aim to support the creation of a prosperous, low-carbon society by providing IT products and services (see page 11).

Stage V Fujitsu Group Environmental Protection Program

As a concrete target for strengthening environmental management in accordance with our environmental policies, The Fujitsu Group creates medium-term action plans. Fujitsu has now created the Stage V Fujitsu Group Environmental Protection Program (fiscal 2007 through fiscal 2009) and is moving forward with environmental activities according to that plan.

Stage V Fujitsu Group Environmental Protection Program http://www.fujitsu.com/global/about/environment/program/stage5. html

Project to Reduce Our Customers' Environmental Load: "Green Policy Innovation"

We are working to reduce the environmental load created by our customers and society as a whole by providing green IT products that take advantage of the Fujitsu Group's environmental technologies and know-how.

We are aiming at contributing to the reduction of a total of over 7 million tons of CO₂ emissions by our customers and society as a whole over the four years from fiscal 2007 to fiscal 2010 (see page 13).



Targets and Achievements

Establishing clear objectives that apply to all business areas of the Fujitsu Group, as well as carrying out well-planned and continuous environmental protection efforts.

Progress Status of the Stage V Fujitsu Group Environmental Protection Program

We reliably achieved targets in fiscal 2007. These included significantly exceeding our targets for increasing the number of Super Green Products, which feature industry-leading environmental aspects, increasing the number of certified environmental solution products, and deploying activities that make environmental contributions to society.

However, due to product downsizing and other factors, we have not succeeded in meeting our goal for the amount of resource reuse from end-of-life products.

Five Priority Areas	Stage V Targets	Targets (fiscal 2007)	Performance (fiscal 2007)	Status*	Related Pages
Improving the Environmental Value of Products and Services	Increase the number of Super Green Products Targeting the Green Products being newly developed in all business units, by the end of fiscal 2009 we aim to increase to over 20% the proportion of products that are Super Green Products with top-class environmental characteristics.	Super Green Products ratio: 7%	Certified of 32 product families in the Super Green Products Achieved an 18% ratio of Super Green Products in all Green Products.	0	P51~
	Achieve an improved environmental efficiency factor By fiscal 2009 we will strive to achieve an environmental efficiency factor of "2" (i.e., twice the environmental efficiency) relative to products in fiscal 2005 for newly developed Green Products in all business units.	Factor: 1.5	Achieved a factor of 2.0 on average across the Fujitsu group newly-developed products in fiscal 2007	0	P51~
	Increase resource reuse and recycling for collected end-of-life products By the end of fiscal 2009 we aim to increase the volume of reused and recycled resources by 15% relative to fiscal 2005. Also, we will maintain the 90% resource reuse and recycling rate for collected end-of-life business-use IT products achieved in Stage IV.	Volume of reused and recycled resources: improve by 3% Resource reuse and recycling rate: 90% or higher	Volume of reused and recycled resources: about a 20% reduction Resource reuse and recycling rate: 91.8%		P55~
	Expand environmental solution offerings We will strive to offer Environmentally Conscious IT Solutions in all areas of our business by fiscal 2009.	Expand to 6 the number of areas where our environmental solutions have been certified or registered in the SI and outsourcing areas.	Increased the number of areas with certified or registered environmental solutions to 19 in the SI and outsourcing areas.	0	P54
Global Warming Countermeasures	Reducing CO2 emissions from energy consumption • Global: Reduce CO2 emissions per unit sales to 28% below fiscal 1990 levels by the end of fiscal 2010. • Japan: Limit energy consumption-related CO2 emissions at our business sites to below fiscal 1990 levels by the end of fiscal 2010.	 Global: Reduce by 63 to 69% from fiscal 1990 levels Japan: Hold down to a 14% increase over fiscal 1990 levels 	 Global: Reduced by 68.4% from fiscal 1990 levels Japan: Held down to a 10.8% increase over fiscal 1990 levels 	0	P57~
	Reduce greenhouse gasses other than CO ₂ We will work to reduce emissions of greenhouse gasses other than CO ₂ by 10% relative to fiscal 1995 emissions by the end of fiscal 2010.	Hold down to a 123% increase over fiscal 1995 levels	Held down to a 112% increase over fiscal 1995 levels	0	P57~
	Reduce CO ₂ emissions during distribution and transport We will strive to reduce the volume of transport-related CO ₂ emissions by 30% from fiscal 2000 levels by the end of fiscal 2010.	Construction of a certification system	Certification system constructed and trial runs performed	0	P57~
	Apply Green Factory and Green Office systems We seek to achieve a two star or higher ranking" in the Green Factory or Green Office systems at all our business sites by the end of fiscal 2009. * Specific achievement level under an original Fujitsu evaluation standard	Reduce by 4% from fiscal 2000 levels	Reduced by 23% from fiscal 2000 levels	0	P57~
	Reduce VOC emissions We aim to reduce volatile organic compound (VOC) emissions by 30% relative to fiscal 2000 levels by fiscal 2009.	Hold down to a 10% increase over fiscal 2005 levels	Held down to a 2.4% increase over fiscal 2005 levels	0	P57~
	Reduce waste generation We will strive to reduce waste generation by 3% relative to 2005 levels by the end of fiscal 2009.	Reduce by 26% from fiscal 2000 levels	Reduced by 27% from fiscal 2000 levels	0	P62
Reinforcing Governance Reinforcing Risk Management Environmental	Improve our environmental management system (EMS) We will strengthen environmental activities in our business by improving our globally integrated environmental management system.	Make explicit the companies to which EMS applies and the requested level Review the systems, frameworks, and organizations for these activities Review the internal audit process	Fact-finding survey of organizations of concern Initiated environmental activities in which business divisions were the sponsor Performed trial runs of the electronic audit system	0	P45~
Contributions to Society	Advance green procurement activities We will strengthen environmental activities throughout our supply chain and support the activities of our business partners. • We will promote improvements in our business partners' environmental management systems, for example, encouraging them to obtain third-party certification such as ISO14001. • We will promote construction of chemical substance management systems (CMS) by our business partners.	Operate a level II (FJEMS) or higher EMS for 60% of structural material business partners Construct CMS systems for 60% of structural material business partners	Operated a level II (FJEMS) or higher EMS for 72% of structural material business partners Constructed CMS systems for 60% of structural material business partners	0	P49
	Activities for environmental contributions to society We will carry out locally attuned activities that make environmental contributions to society and in which each of our employees can play an important role.	Number of activities that make environmental contributions to society implemented • Japan: One per year at all business sites Overseas: One every three years at all business sites	 Japan: Implemented at all sites Overseas: Implemented at 22% of all sites 	0	P50

 $*\bigcirc$: Achieved, \triangle : Partially achieved

For the Environment Environmental Management

We are continuously working to improve our ISO14001-based environmental management system and to promote unified environmental management of the Fujitsu Group.

EMS Implementation and Operational Status

Acquisition of ISO 14001 Global Integrated Certification We obtained integrated ISO14001 certification, which is an international EMS standard, covering our domestic consolidated subsidiaries at the end of fiscal 2004. In fiscal 2005, we expanded our EMS coverage to include certain overseas Group companies. By the end of fiscal 2007, we had acquired globally integrated ISO14001 certification covering 88 domestic Group companies and 11 overseas Group companies.

Furthermore, we have constructed and are operating an EMS based on a common foundation drawn from the Fujitsu Group environmental policies in 32 consolidated overseas non-manufacturing companies, and have thus established an environmental management system in the group as a whole.

A feature of the Fujitsu Group integrated EMS is that to respond to the globalization of our business activities the integrated EMS aims at handling and is operated for this globalization. We are aiming for continual improvements to our systematic and efficient environmental management, including lateral efforts that cut across the whole supply chain including overseas components, as well as responses to the RoHS directive and the REACH rules (see page 52).

We are also operating an integrated EMS system as part of our strengthening of corporate governance. For instance, we are aiming for strengthened group governance through, for example, achievement status reports for the Environmental Protection Program (Stage V), efforts towards compliance in each group company, handling of emergency situations, environmental communication activities, collection of environmental protection activity reports (each quarter), and implementing management reviews including for overseas operations.

Environmental Promotion Structure and its Role

In order to carry out management decisions quickly, the Fujitsu Group's EMS has been developed in accordance with our business organization, that is, our business group structure. In particular, we have constructed a matrix structure that combines both line activities that promote environmental efforts according to the characteristics of each business group and site activities that deal with common themes at each factory or business site.

The Management Council makes decisions on EMS activities, and those decisions are transmitted to each business group. Also, an Environmental Committee is provided directly under the Management Council. In the Environmental Committee, for each environmental activity theme, an issue-specific committee, consisting of concerned parties that transcends the business group/unit organizational structure, discusses the establishment of concrete environmental action plans and improvements to the EMS. The results of the discussions in each issue-specific committee are managed and integrated by the Environmental Committee, and after feedback to the Management Council, they are reflected in the activities in each of the business groups. To strengthen communication with Group companies, we hold meetings of the Domestic Affiliated Companies' Supervisory Environmental Council, comprising the heads of our domestic Group companies, and of the EMS Managers Council, for managers in charge of actual EMS operations. With respect to our overseas operations, we hold overseas group environmental conferences in each of our four key geographic areas, Europe, North America, Asia, and China, where we provide information on the direction of environmental activities for the Group as a whole and the results of management reviews.

We have implemented measures related to expansion of the EMS applicability range to sub-subsidiary and related companies, strengthening of environmental activities in our main business, and improving the quality of the internal audit committee based on the following goal stipulated in the Environmental Protection Program (Stage V): strengthening of environmental activities in our main business by improved quality in the global integrated EMS.



With Local and International

Implementing Environmental Audits (internal audits)

To assure auditing objectivity and independence, we have implemented a Corporate Internal Audit Division, which is not affiliated with any line organization, for the Fujitsu Group internal audit.

In fiscal 2007, we implemented, from July to December, an internal audit that covered 647 Fujitsu Group domestic and overseas factories, offices, and other facilities. When performing this audit, we carefully examined both the trends pointed out by the fiscal 2006 internal audit and the results of an external audit and adopted the following four points as critical auditing items: (1) methods for setting purposes and targets, (2) procedures for extracting legal and other requirements that apply to one's own group, (3) methods for correcting nonconformance, and (4) operations management.

The result of this internal audit was a total of 589 suggestions, and of these, 79 were minor findings. There are no major findings. One trend for this fiscal year's internal audit was to aim for strengthened and more thoroughgoing corporate employee education, such as implementing seminars on environment related law, and there were fewer suggestions relating to compliance with laws than there were in fiscal 2006. In contrast, the number of suggestions related to environmental influence evaluation and environmental purposes and targets increased. We implemented support at all locations to improve these aspects.

To aim for more rational and efficient investigation, we have introduced a "document audit" starting with the fiscal 2007 internal audit. This document audit was performed for offices and business locations that generated relatively small environmental load in association with their business activities or for which no critical suggestions were made in past internal or external audits. Factories and large-scale business sites with large environmental load are excluded from this document audit. We plan to verify further the effectiveness of this document audit in the future.

Status of Environmental Compliance

While the Fujitsu Group caused no major violations of environmental law and caused no accidents that had any major impact on the environment in fiscal 2007, there were 11 events in which laws were violated or our own standards were exceeded. Four of these were wastewater related, one was soil related, four were solid waste related, one was notification related, and one was noise related. We completed resolution of all of these incidents within fiscal 2007. We ascertained the causes of these incidents during fiscal 2007, and we are working to prevent reoccurrence in fiscal 2008 by informing all group companies of measures for preventing violation of environmental laws.

Environmental Education and Enlightenment

As a basis for promoting environmental activities with participation of all employees, the Fujitsu Group is implementing a wide range of environmental education and enlightenment efforts for employees in all divisions based on the idea that improving the environmental awareness of every one of our employees is required.

Implementing Environmental e-Learning for All Groups

At the same time as promoting proactive efforts for environmental protection activities by every one of our employees in our main business, we have also implemented an "Environmental e-Learning for All Groups" program to support the implementation of environmental protection activities that conform to the ISO 14001 international standard as well as informing of, making understood, and implementing the Environmental Protection Program (Stage V). In this program, in addition to the basic course, we have also implemented a design and manufacturing course and a sales and system engineer course to make the content appropriate for our main business.

Environmental e-Learning for All Groups



Targets and Contents

Basic Course

All Fujitsu Group employees (including corporate officers), both domestic and foreign

Critical issues facing the earth, Fujitsu Group environmental efforts, what each and every employee can do at the workplace and in their homes, and other issues

Design and Manufacturing Course

Research, development, design, and manufacturing employees in Japan Customer contributions due to environmentally conscious product design, the importance of reducing the environmental load at the manufacturing workplace, and other issues

Sales and System Engineer Course

Sales staff, system engineers, and general staff in Japan Promotion of reductions in customers' environmental load, environmental activities in the solutions area, and other issues

Note that by implementing this education in an e-learning format, we calculate that this will have the effect of reducing CO₂ emissions by about 5,000 tons compared to earlier concentrated education formats.

Enlightenment Activities that Use Events such as Environment Month

The Fujitsu Group implements a wide range of environmental enlightenment activities (see page 41) at each business site that make use of events such as Environment Month (which is June) sponsored by Japan's Ministry of the Environment. In addition



to our annual environmental lectures and other events, as a new effort for fiscal 2007, we presented screenings of the environmental movie "An Inconvenient Truth." About 5,300 employees from the whole Fujitsu Group attended.

Screening of "An Inconvenient Truth"

Environmental Management Information Systems

To improve the efficiency and visibility of our environmental management, the Fujitsu Group makes aggressive use of its unique environmental management tools, which take full advantage if IT.

Use of the Global Environment Database System

The Fujitsu Group uses the Global Environment Database System (GEDS) to collect the environmental load (performance) information for the Fujitsu Group companies and business sites worldwide and to manage plans, results, and policy information uniformly.

Use of the ISO 14001 Green Management System

We make use of our ISO 14001 Green Management System (GMS) and perform unified management of our EMS operating conditions, including the status of improvements suggested by the environmental audit, the status of communications activities, the status of assigning objectives and targets for environmental management, and the implementation status of the environmental management program. We are achieving results in continuous improvement of activities and in risk reduction by reliably carrying out improvement measures and goal management.

Furthermore, in fiscal 2007 we introduced an environmental impacts evaluation function that is based on common group evaluation standards into this system. In future, this will provide for the efficient evaluation of factories and administrative offices.

Global Environment Database System



ISO 14001 Green Management System



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Environmental Accounting

Understanding and evaluating the costs and benefits of effective environmental protection activities helps to identify problems and share best practices across the Group.

Fiscal 2007 Results

The fiscal 2007 environmental accounting for the Fujitsu Group showed a 1.74 billion yen investment in plants and equipment, expenses of 19.43 billion yen, and an economic benefit of 31.7 billion yen.

While costs increased by 2.72 billion yen from the previous year, the majority of that was due to increases in expenses for soil and groundwater contamination countermeasures and increases in maintenance and operating costs related to energy saving equipment adopted as global warming countermeasures. We also saw a 4.2 billion yen increase compared to the previous fiscal year in economic benefits due to both a large increase following that of the previous fiscal year in the effects of resource recycling and risk avoidance benefits (estimated benefits) associated with soil and groundwater contamination countermeasures. In contrast, investment in plant and equipment fell by 1.93 billion yen.

That is, as reported in the 2007 Fujitsu Group Sustainability Report, we implemented, in a planned manner, appropriate and reliable contamination counter measures at business sites where contamination was verified, such as the soil contamination at the Suzaka plant building demolition site and the soil and groundwater contamination at the Oyama plant. As a result, our environmental remediation costs were 1.34 billion yen. Note that we calculated 0.8 billion yen as the estimated effect, using our unique calculation standard, for these soil and groundwater contamination countermeasures.

Furthermore, as a result of promoting reduce and reuse activities that aim at achieving more effective use of resources, our resource circulation costs increased by only 0.41 billion yen while the resource circulation benefit, which is the result of these activities, increased by 3.26 billion yen. Note that of the causes for this increase in the resource circulation benefit, one that is included is an increase of 0.7 billion yen in the sales profits from unnecessary valuables by electronic device subsidiaries due to the rise in the market price of precious metals, which continued from the previous year.

Another point here is that as a significant change to the coverage of important data collected from fiscal 2007, Fujitsu Semiconductor Technology, Inc. has newly become an object of consolidated accounting and it has also been added to the scope of data collection for environmental accounting. The effect of this has been a cost of about 0.6 billion yen and an economic benefit of about 0.5 billion yen.

Environmental Accounting
http://www.fujitsu.com/global/about/environment/accounting/

Trends in Costs and Economic Benefits

Costs Actual benefits*1 22 Estimated benefits*2 (100 million yen) 400



*1 Actual Benefits

These are benefits that can be directly declared in monetary amounts, like savings produced in the case of reductions in environmental conservation costs and income from the sale of unusable products.

*2 Estimated Benefits

These are benefits not directly presentable in monetary amounts but which have benefit that can be expressed in monetary terms under certain circumstances, for example, the contribution of environmental conservation activities to value added in manufacturing and savings from avoidance of business site operating losses that would arise from failure to observe environmental laws and regulations.

Item		Main areas covered	Capital investment (100 million yen)	Costs (100 million yen)	Economic benefits (100 million yen)	Related Pages
Business area costs/	Pollution prevention costs/ benefits	Preventing air pollution/water pollution, etc.	5.8 (-11.5)	51.8 (-0.8)	82.5 (+0.6)	P60
benefits	Global environmental conservation costs/benefits	Preventing global warming, saving energy, etc.	8.2 (-1.8)	25.6 (+5.3)	25.5 (+0.5)	P58-59, 62
	Resource circulation costs/ benefits	Disposal of waste, efficient utilization of resources, etc.	0.5 (-1.3)	38.0 (+4.1)	168.6 (+32.6)	P57, 60-61
Upstream/downstream costs/benefits		Collection, recycling, reuse, and proper disposal of products, etc.	0.4 (-2.4)	12.4 (+1.3)	6.4 (-0.6)	P49, 55-56
Administration costs/benefits		Provision and operation of environmental management systems, environmental education of employees, etc.	1.9 (+0.5)	30.0 (+1.3)	8.2 (+2.2)	P45-47
R&D costs/benefits		Research and development on products that contribute to environmental protection, etc.	0.6 (-2.5)	22.9 (+2.8)	17.8 (-1.3)	P51-53
Social activity costs		Donations to, and support for, environmental groups, etc.	0.0 (±0.0)	0.2 (±0.0)	_	P50
Environmental remediation costs/ benefits		Restoration and other measures related to soil and groundwater contamination	0.0 (-0.2)	13.4 (+13.2)	8.0 (+8.0)	P61
	Total			194.3 (+27.2)	317.0 (+42.0)	_

Environmental Accounting

• Numbers in parentheses indicate increases or decreases in comparison with the previous year.

• Due to rounding, figures in columns may not add up to the totals shown.

See pages 63, 64 for details on the environmental performance index (environmental conservation benefits).

For the Environment Green Procurement

In cooperation with our business partners, we promote green procurement—from parts and materials for manufacturing through software and services—to provide our customers with products and services with superior environmental efficiency.

Our Approach to Green Procurement

In our procurement activity, we give priority to purchasing parts, materials, and products that are eco-friendly. We stipulate our basic requirements for green procurement in the Fujitsu Group Green Procurement Direction and promote green procurement activities together with our business partners.

B Fujitsu Group Green Procurement Direction

http://www.fujitsu.com/global/about/procurement/green/

EMS Construction for Green Procurement



* FJEMS

Fujitsu Group Environmental Management System. The Fujitsu Group's original EMS.

Objectives of the Environmental Protection Program (Stage V)

The Fujitsu Group is engaged in the following two proactive efforts as green procurement activities in the Environmental Protection Program (Stage V).

Improving Our Business Partners' Environmental Management Systems (EMS)

In the Environmental Protection Program (Stage V), we are aiming at increasing the level of our business partners' environmental management systems (EMS). Through our EMS Level-Up Briefing Sessions, we are asking our business partners to increase the level of their EMS by Third-Party Certification Acquisition and FJEMS Construction and similar activities. This aims at promoting environmental load reduction activities by our business partners.

Note that we held six such briefing sessions at the Fujitsu Kawasaki Plant in fiscal 2007, and that a total of 656 persons from 573 companies attended.

Construction of Business Partners' Chemical Substances Management System (CMS)

In the Environmental Protection Program (Stage V), we target the construction of chemical substances management systems (CMS^{*1}) by our business partners. To achieve appropriate management of chemical substances throughout the whole supply chain, we request and support the construction of a chemical substances management system based on the Guideline for the Management of Chemical Substance in Products issued by JGPSSI^{*2}, and promote strengthened management of chemical substances with a strong emphasis on source management.

In fiscal 2007, in addition to promoting CMS construction for direct business partners (primary business partners), we are now, as a new effort, (a) requesting through our primary business partners that our secondary business partners also attend our briefing sessions, (b) providing both materials that summarize the management content required for source management as well as our original audit sheets, and (c) promoting activities for firmly establishing CMS directed at the root of the supply chain. In the future, we will continue to stress the importance of source management through briefing sessions and periodic audits, and aim at increasing the level of chemical substances management in the whole supply chain.

- *1 CMS Chemical Substances Management System *2 JGPSSI
- Japan Green Procurement Survey Standardization Initiative

Promotion of Green Policy Innovation by Strengthening Green Procurement Activities

To achieve the Green Policy Innovation (reduction of customers' environmental load by the provision of green IT, see the section starting on page 13) announced in December 2007, we are studying the following two ideas: (1) seeking for top environmental technologies and materials that our business partners possess, and (2) grasping the trends in environmental technologies and providing consistent proposals to our design and development divisions based on medium and long-term standpoints. In particular, we are studying the creation of an infrastructure for rapid adoption of superlative environmental technologies in our products by having our business partners provide "Environmental Proposal" documents (this name is provisional), studying and evaluating those proposals internally, and aiming at moving these proposals to the design and development divisions.

Infrastructure for Achieving Green Policy Innovation



With Local and International

Environmental Contributions to Society

We vigorously promote activities that make environmental contributions to society and foster mutually beneficial relationships in our communities worldwide.

Our Basic Approach to Activities that Make Environmental Contributions to Society

All employees of the Fujitsu Group recognize the importance of the global environment and, to assure that the next generation inherits a beautiful planet-wide environment, contribute to their local community through activities that make environmental contributions to society based on the following three pillars: regional contributions, nature conservation, and environmental education.

In our Environmental Protection Program (Stage V), which started in fiscal 2007, we have proposed environmental social contributions as one of five critical areas, and are strengthening our activities in this area.

Conservation of Biological Diversity

At the 9th Meeting of the Conference of the Parties to the Convention on Biological Diversity held in May 2008 in Germany, Fujitsu signed the "Initiative on Business and Biodiversity", as a corporation that approves this leadership declaration. Fujitsu will continue to promote activities aimed at conserving biodiversity within its environmental management framework.

Reviving the Tropical Rainforest in Borneo, Malaysia

It is said that over 50% of the world's species live and grow in tropical rainforests. In recent years, these rainforests are being rapidly destroyed by commercial logging and other human activities. Fujitsu is working, from the standpoint of protecting biodiversity, for the revitalization of the tropical rainforest in Borneo, Malaysia, Southeast Asia, which is said to be one of the world's three largest tropical rainforests.

Since 2002, Fujitsu employees, as volunteers, have been reforesting the 150 hectares of the Fujitsu Group Malaysia Eco-Forest Park with the support of the Sabah State Forestry Development Authority and the Japan International Forestry Promotion and Cooperation Center. Until now, these volunteers have planted 37,500 seedlings of the tropical rainforests' native kinds such as Shorea.

Together with Advantest, which has been cooperating in reforestation since fiscal 2005, Fujitsu carried out a study of the state of the planted seedlings. Since the reforestation site is almost directly under the equator at 6 degrees north



Dipterocarpaceae that have Grown to a Height of 6 Meters

he equator at 6 degrees north latitude, we had expected that the incident sunlight would be unrelated to the direction faced by the planted slopes. However, the study discovered that, contrary to this expectation, the closer to facing south a slope was, the faster the seedlings grew. Also, in areas that were covered with grass, the survival rate of the seedlings was worse, and that there was also a tendency for growth to be slower when there were miscellaneous trees in the area.

From these results, we realized that it was necessary to improve the amount of sunlight the seedlings received by removing grass and brush. In the future, Fujitsu will put efforts into removing grass and brush to assist in the restoration of tropical rainforests.

Seedling Growth Height and Planted Slope Direction



Creating Broadleaf Tree Forests

The Fujitsu Group is working on creating a broadleaf tree forest in the Fujitsu Group Kii Ryujin Murmuring Forest in Tanabe City, Wakayama Prefecture. This is an effort to rejuvenate the loggedout area that was previously a cedar forest and create a broadleaf tree forest.

In April, 2008, 134 Fujitsu Group employees and family members assembled at the site. The participants climbed the steep slope, dug holes with hoes, and carefully planted about 500 seedlings of quercus myrsinaefolia (a type of oak), horse chestnut, Japanese maple, prunus sargentii (a type of cherry),



Creating a Broadleaf Forest (commemorative plaque and those participating)

and Japanese zelkova. We are aiming at rejuvenating a rich and natural forest by carefully raising the seedlings we planted, including planning summer weeding and other projects.

For the Environment Eco-Friendly Products

We are accelerating the development of Green Products and Super Green Products and are working to reduce environmental load throughout the product life cycle.

Green and Super Green Product Development

The Fujitsu Group has adopted a unified Group-wide approach to eco-design for newly designed products and strives to improve environmental performance throughout the product life cycle. We have been implementing our own environmental assessments for products since 1993, and we develop ecofriendly products that reflect environmental considerations in such areas as energy saving, 3R design,* non-use of hazardous chemical substances, packaging materials, and information disclosure.

In 1998, to further strengthen development of eco-friendly products, we established Green Product Evaluation Standards and positioned the products that satisfy them as Green Products.

Then, in fiscal 2004, we combined what had previously been two separate sets of regulations—for product environmental assessment and for Green Product evaluation— into a single set of standards with even higher levels of consideration for the environment. We called these Product Environmental Green Assessment Regulations, and they have helped to both strengthen our Green Product development efforts and make them more efficient.

Furthermore, since fiscal 2004, we have been working on what we call "Super Green Product" development for newly developed products. Super Green Products are those that meet the required conditions for Green Products and are also top class in terms of low energy consumption and/or 3R design technology, non-use of hazardous substances, packaging materials and use of ecofriendly materials and technologies. Super Green Products are products or systems with superior environmental characteristics to others we supply or are available on the market.

In fiscal 2007, 32 product families were recognized as Super Green Products.

* 3R design

Design based on the principles of reduce, reuse and recycle

STEP 1 STEP 2 STEP 3 Carry out Product Carry out Green Carry out **Environmental** Product Evaluation evaluation based on Super Green Assessment Product definition Must score 90+ -Environmental total evaluation points features satisfy the Super Green Product def inition **Super Green Product** (product with superior environmental consideration) All evaluation criteria satisfied Green Product (product with enhanced environmental consideration)

Mechanism for Green and Super Green Product Evaluation

Super Green Product Development Achievements (Fiscal 2007)

Fujitsu Limited (19 product familes)

- Notebook PCs (5 product families): FMV-BIBLO NX95W/D,
 FMV-LIFEBOOK U8240, FMV-LIFEBOOK C8250
 FMV-BIBLO MG Series (MG90Y/V, MG75Y)
 FMV-LIFEBOOK S8350
- Desktop PCs (2 product families): FMV-ESPRIMO K5250, FMV-ESPRIMO D5255
- Displays: ECO Plus Monitor VL-176SR
- PC Workstations: CELSIUS N460
- Ethernet edge system: FLASHWAVE 5740
- IP telephones: i-station-70 series
- Network servers:
- IPCOM EX2000IN, redundant power supply type
- Storage, Disk arrays: ETERNUS 2000 M50/M100/M200
- Mobile phones: Raku-Raku PHONE BASIC (F883i/IV, F883iES)
- Hard disk drives (4 product families)
 2.5-inch SATA drives (MHY2 BS Series, MHY2 BH Series)
 2.5-inch SAS drives (MBC2 RC Series)
 2.5-inch SAS drives (MBB2 RC Series)
 3.5-inch SCSI/SAS drives (MBA3 Series)
- Wireless base station equipment:
 W-CDMA high-density multi-band BTS equipment
- W-CDMA high-density multi-band BIS equipmen

Consolidated subsidiaries and affiliates (13 product families)

- Overhead reader: 3G-OHR (Fujitsu Frontech, Ltd.)
- Portable information terminal: FLEPia (Fujitsu Frontech, Ltd.)
- Scanners (2 product families): ScanSnap S300 (PFU Limited) fi Series fi-6140 and fi-6240 (PFU Limited)
- High-density/low-power computer: RG1000 (PFU Limited)
- Electronic components (2 product families): SMD Gyro Sensor (Fujitsu Media Devices, Ltd.) Rx Module R03 Series (Fujitsu Media Devices, Ltd.)
 Thormal printers (2 product families):
- Thermal printers (2 product families): FP-510 (Fujitsu Isotec, Ltd.) FTP-6x7MCL601 (printer with low-profile cutter) (Fujitsu Component, Ltd.)
- Keyboards:
- Switch Panel-less Keyboard (Fujitsu Component, Ltd.)
- Relays: JSL type relays (061RX) (Fujitsu Component, Ltd.)
- Touch panels:
 0.55mm Glass Touch Panel (Fujitsu Component, Ltd.)
 ICs:
- On-chip FRAM IC (IMB85RF402) for Digital TVs (Fujitsu Microelectronics, Ltd.)

Research and Development on Leading-Edge Environmental Technologies

Fujitsu and Fujitsu Laboratories, Ltd. carry out R&D on advanced environmental technologies to support the development of Green Products and Super Green Products. In addition to adopting bio-based plastics in notebook PCs for the first time in the industry, we have achieved a variety of successes, including, in September 2007, developing an efficient analysis

With Local and International

For the Environment

procedure for determining the amount of lead included in the plating on chip components to strengthen our response to the RoHS directive.

Reducing Product Environmental Load by Using the Environmental Efficiency Factor

We carry out a Life Cycle Assessment (LCA*1) for all newlydeveloped products to determine the environmental load throughout the whole life cycle of the product.

In fiscal 2007, we introduced the eco-efficiency factor*2, which evaluates both increases in product value and reductions in its environmental load at the same time. We are working to not only indicate increases in environmental performance in an easy to understand manner, but also to use this evaluation in product development. This factor is calculated relative to fiscal 2005 products for newly-developed Green Products.

On average, the factor was 2.0 for the Fujitsu Group as a whole for products developed in fiscal 2007. Fujitsu will continue to work for improvements in environmental performance to maintain our eco-efficiency factor at a high level in future product development.

*1 LCA: Life Cycle Assessment

The LCA is calculated using a resource unit database created by Fujitsu Laboratories, Ltd. Based on input output tables.

*2 Eco-efficiency factor

A method for comparing old and new products that quantitatively grasps improvements in both product environmental load and value (functionality and performance). This is an environmental index that promotes the creations of products that can provide even higher values at even lower environmental load.

Eco-efficiency factor



Management of the Restricted chemical substances in products

In compliance with Japanese and international laws and regulations, we have specified Banned Substances and Control Substances in Products. And through our Green Procurement activities (see page 49) we are working to eliminate use of these specified substances. Fujitsu provides products that do not contain Fujitsu Group-specified Banned Substances.

At the same time as the thoroughgoing management of chemical substances in all processes from design to delivery as a response to the RoHS^{*1} Directive, we are also moving forward with our response to the European REACH regulation^{*2} in fiscal 2007. We regard the REACH obligation of information communication on the specific substances contained in products as an issue for the whole supply chain, we are participating in activities of industry associations such as JAMP^{*3}

and JGPSSI^{*4}, and we are studying the implementation of an efficient scheme.

We are also applying our company-internal know-how on this type of study to PLEMIA/ECODUCE, which is an Environmental Solution for the REACH Regulation support (see page 54).

*1 RoHS Directive

- Restriction of the use of certain hazardous substances in electrical and electric equipment
- *2 REACH Regulation Regulation concern
- Regulation concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals.
- *3 JAMP Japan Article Management Promotion Consortium
- *4 JGPSSI
 - JGPSSI

Japan Green Procurement Survey Standardization Initiative

Framework for RoHS Directive Compliance



* Group companies are also constructing frameworks based on the above figure.

Disclosure of Environmental Information on Products

We actively disclose environmental information on our products, both via the Internet and in the form of environmental labels.

We register notebook personal computers under the EPEAT*1 system, which encourages the purchase of green PCs and is used chiefly by US government bodies.

In Japan, environmental information on the products that are covered by green purchasing laws^{*2} are listed on the Ministry of the Environment's web site^{*3}.

- *1 EPEAT web site http://www.epeat.net/
- *2 Green purchase laws
 - Laws related to promoting the purchase of eco-friendly goods and products by the country or other parties.
- *3 Ministry of the Environment web site http://www.env.go.jp/en/laws/policy/green/index.html

Super Green Product Development Examples



Environmental Solutions

Developing and providing a wide variety of environmental solutions that support environmental management and reduce the environmental load.

Environmentally Conscious Solutions

In the Fujitsu Group, we quantitatively evaluate the effects of our efforts to reduce the environmental load in software and IT services (IT solution products), and develop and provide ecofriendly solutions that contribute to reductions of our customers' environmental load after the adoption of those IT solution products (see the section starting on page 13). We have certified 105 products that can be used in a wide variety of operations and business areas and provide these to our customers. In addition to this quantitative evaluation, from 2007 we have also introduced the Environmentally Conscious Solutions Registration System, which is a qualitative environmental assessment. This is not limited to earlier business areas but also targets efficiencyimproving tools for corporate internal use. We have registered 60 proposals as a system that all employees can work with. We are expanding these Eco-Friendly and Environmentally Conscious Solutions from a package centered approach (we achieved complete coverage of all areas in Stage IV) to the SI and outsourcing areas, and have deployed this approach in 19 of the total of 27 areas.

Furthermore, to share our thinking and environmental load assessment methodology from our experience in environmentally conscious solution certification activities, we participated in Japan's Ministry of Internal Affairs and Communications' Study Group on ICT Systems and Networks for the Global Warming Problem.

Environmentally Conscious Solutions

 $\label{eq:http://www.fujitsu.com/global/about/environment/activity/esolutions. html \\$

Environmental Business Solutions

To contribute to a sustainable world, the Fujitsu Group supports customers' environmental operations through the provision of various Environmental Business Solutions based on the knowhow we have acquired in our previous environmental activities.

The Fujitsu Group supports our customers' environmental management and environmental administration by providing Environmental Business Solutions such as the examples described below.

The PLEMIA/ECODUCE Environmental Business Solution that Powerfully Supports Chemical Substances Management and Environmentally Conscious Design

In April 2000, Fujitsu developed the PLEMIA/ECODUCE Environmental Business Solution that powerfully supports chemical substances management and environmentally conscious design, and has put this product into service.

Green Procurement Survey Support Function

This function supports management in accordance with customer or parts supplier attribute. For example, this system supports input/ output using JGP files stipulated by the Japan Green Procurement Survey Standardization Initiative (JGPSSI) for the electrical and precision equipment industry and the green procurement unified data sheets used by IMDS* and the Japan Automobile Manufacturers Association (JAMA) for the automotive industry.

- * IMDS: International Material Data System
- Common international system for collecting information on materials and included substances of the parts that are used to form automobiles.

Environmentally Conscious Design Support Function

This function supports the collection and analysis of data on the amounts of included substances in each structure unit of products. This makes it possible to immediately identify units and products that use problematic parts and to smoothly develop and improve products that conform to a wide range of regulations. Furthermore, since this is a web application that can be used throughout the whole company, it can be taken advantage of by multiple divisions (such as design, procurement, purchasing, and quality assurance) including overseas business sites due to its unified management of environmental data.

REACH Regulation Support

In fiscal 2008 we added new functionality required by the REACH regulation, including the handling of AIS and MSDS Plus, which are new formats stipulated by JAMP. We are planning to release a version that includes this REACH regulation support.



Promoting Product Recycling

Advancing collection and materials recycling of end-of-life IT products to help promote a recycling-minded society.

Efforts Outside Japan

The Fujitsu Group recognizes the responsibility of manufacturers to process end-of-life IT products appropriately and we began the recycling of business IT products in Japan in 1995, well before the legal requirements for such recycling were enacted. Using this as an opportunity, we have worked proactively to construct recycling systems for end-of-life IT products outside Japan as well, and, as of fiscal 2007, have constructed our own recycling systems in Europe, North America (US and Canada), Asia (The Philippines, Singapore, and Australia).

In constructing these systems, we consider both our experience in Japan as well as guidelines for recycling created by the governments of each country. We then create a standard for recycling provider selection and select recycling partners in each country based on that standard.

The Fujitsu Group makes use of this system to provide a service that collects end-of-life IT products from our customers and processes them appropriately at a recycling partner. Just one of the results of this system in fiscal 2007 was that Fujitsu Australia, Ltd. recycled about 17 tons of end-of-life CRT and POS systems from major retailers in that country. Similarly, Fujitsu Korea, Ltd. Recycled about 20 tons of electronics solid waste, mainly notebook PCs.

Recycling Services



Countries in which Fuiltsu voluntarily provides recycling services

* The recycling service in South Africa is an effort of Fujitsu Siemens Computers.

Efforts in Japan

As an enterprise with official designation for wide-area industrial waste disposal in Japan, Fujitsu has developed a nationwide



recycling system and engages in various kinds of contracts for accepting industrial waste for appropriate processing throughout Japan. This system provides for rigorous traceability and security, and achieves a high rate of resource reuse*1. By providing this safe and secure service, we are fully discharging our Extended Producer Responsibility (EPR)*2.

Wide Area Industrial Waste Disposa Certificate

*1 Resource reuse rate

The ratio of the amount (by weight) of recycled parts and resources to the amount of end-of-life business IT products processed.

*2 Extended Producer Responsibility (EPR)

The idea that the producer's responsibility for their products is not limited to the product design and manufacturing stages but extends to the disposal and recycling stages as well.

Fujitsu Recycling Centers throughout Japan

:Fujitsu Recycling Center :Affiliated Recycling Center

Fujitsu Chubu Area Recycling Center (FDK Ecotec) Fujitsu West Japan Recycling Center (Fujitsu Peripherals Limited) Fujitsu Kyushu Recycling Center (ECHO Electronic Industry Co, Ltd.) Fujitsu Metropolitan Area Sagamihara Recycling Center (Fujitsu Metropolitan Area Sagamihara Sagamihara Recycling Center (FUJItsu Metropolitan Area

Recycling Achievements

We recycled 8,364 tons of IT products in fiscal 2007, a reduction of 20% from the previous year. This was due to, among other factors, advances in product downsizing. We recycled 7,078 tons of reusable resources, including end-of-life PCs from individual customers.

By expanding applicability to recycled parts for maintenance and repair, we achieved an IT product resource reuse ratio of 91.8%, which was an increase of 0.3 points.

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Trends in Collection Volume and Materials Recycling Rate of Post-use IT Products for Business

Providing Product Recycling Information

To process end-of-life IT products appropriately, Fujitsu develops and operates an electronic disassembly manual management system that provides, using internal web sites, Fujitsu recycling centers with both the information necessary for product recycling and disassembly manuals in a video format. In particular, this system provides information on chemical substances, plastic materials, and units that may retain

customer data.





Electronic Disassembly Manual Management System

Video format disassembly manual

Steady Implementation of Proper Processing

Fujitsu recycling centers improve the sorting precision by disassembling IT products one at a time by hand. This reduces residual waste to the absolute minimum and enables the usable resources to again be used to manufacture various products.

Fujitsu Integrated Recycling Process

Risk Management

Developing a Traceability System

We developed a recycling integrated information management system and have adopted it at the Fujitsu recycling centers. This system prevents theft and illegal dumping by attaching barcodes to customers'IT products and managing data on the history of the recycling process from acceptance at the recycling center through disassembly and destruction of the hard disks on a per-customer basis.



Integrated Recycling Information Management System

Security Camera Monitoring System

The Fujitsu recycling centers automatically monitor for intruders and the storage status of accepted products using IR monitoring.





Security Camera Monitoring System

Customer	Recycling center	
	 Plastic parts Plastic films and bags Crushing Covers (ABS, PS, and PC) Conversion to compact pel Polystyrene foam (PE, PP, PS, and others) 	lets (plastic raw materials (plastics manufacturers)
End-of-life IT product	Foamed plastic shock absorbing materials	Blast furnace reduced (steel plants)
PC Printer Server and other products	Metal parts Metal parts Wire and cables Wire and cables	num, Metals (metal parts manufacturers)
	Printed circuit boards Materials that include prec CPUs, ICs, motherboards	ious metals Precious metal recovery (refining plants)
	Displays Crushing and reduction LCD glass, CRT glass	Glass materials (glass manufacturers)

For the Environment

Reducing the Environmental Load of Factories and Business Offices

Advancing eco-friendly manufacturing through comprehensive environmental protection activities in our factories.

Applying the Green Factory and Green Office Systems

The Fujitsu Group's approach has been to work with our Green Factory Construction concept for environmentally conscious factories. Now, to advance this construction of green factories even further in our Stage V Environmental Protection Program, we have developed our Green Factory and Green Office systems, which render visible by comprehensive evaluation our level of environmental awareness and voluntary efforts.

In our Stage V Environmental Protection Program, we propose achieving a two star (\bigstar) or higher level in the Green Factory or Green Office system at every one of our business sites by the end of fiscal 2009, that is, we will apply these systems not only to manufacturing facilities, but to office divisions as well. This aims at achieving this certification level in comprehensive evaluations at all business sites and at continuous improvement in our level of environmental awareness.

We saw fiscal 2007 as a period for preparing for these efforts and we implemented the evaluation standards and an operational trial. We promoted efforts towards energy savings and zero emissions* of waste materials and achieved a two star or higher level at all 67 sites.

* Zero emissions

Reducing landfill and simple incineration to zero by 100% effective reutilization of waste materials.

Certification Levels



Green Process Activities – Reduction of Environmental Load in Manufacturing Processes

Our Green Process activities are intended to save energy and reduce the amounts of chemical substances used and waste produced in manufacturing processes.

In a Green Process activity, we strive to reduce the environmental load (waste, chemical substance emissions, energy usage) of a manufacturing process by optimizing (and reducing costs) of raw material inputs, chemical substance usage, energy usage, and other aspects, and/or switching to alternatives with lower environmental load.

In these activities, we first assign an environmental load index (CG index*), an originally developed method, as a yardstick for determining target values for specific materials, chemical substances, and energy used in the manufacturing process, and then apply the PDCA cycle to guide activities at each quarter. These diverse efforts range from reviewing manufacturing technologies and particular processes to daily improvements from the workers themselves.

* CG index: Cost/Green index

This index describes the product of input volume used per product, the cost, and the environmental impact (on a scale from 1 to 10).

Green Process Example Improving Polishing Quality in the Semiconductor Manufacturing Process

We manufacture ICs for AV equipment, home appliances, PCs, OA equipment, and other products at the Fujitsu Microelectronics, Ltd. Aizu Wakamatsu plant, a Fujitsu Group semiconductor manufacturing site.

At this plant, we worked to reduce the number of product surface flaws that occur in the polishing stage of the wafer process as a Green Process activity theme. In this effort we found that there is a tendency for the occurrence of flaws to depend on the shape of the grooves in the polishing pads used in the polishing process. On further investigation, we found that at the same time as reducing the occurrence of flaws, we could also increase the life of the polishing pads by optimizing the shape and depths of the grooves.

Furthermore, in the conditioning disks used to restore the surface of the polishing pads to their original conditions, we also improved quality of polishing pad restoration by adopting disks that reduced the variations in setting precision.

In addition to improving the polishing quality with this effort, we also extended the useful lifetime of the polishing pads. As well as reducing both the frequency of polishing pad replacement and the volume of waste polishing pads, this also led to a reduction in the total amount of polishing compound used in polishing tests at pad replacement. Compared to the situation prior to this effort, the polishing pad CG value was reduced by 60.2% and the polishing compound CG value was reduced by 21.5%.

We are aiming to increase this effect even further by deploying this effort at our Mie plant and Iwate plant.

Efforts to Prevent Global Warming Basic Approach

We are working to reduce emissions of greenhouse gases associated with all our group business activities. These efforts include reducing emissions of CO₂ due to energy consumption and other greenhouse gases at our factories and offices and reducing emissions associated with transportation (see page

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62). Furthermore, we are working to prevent global warming throughout all areas of business activity by contributing to reduced emissions of greenhouse gases by our customers, industry, and society in general by developing IT products that achieve energy savings and by providing IT solutions that have the effect of reducing environmental load (see the section starting at page 13).

Reducing Greenhouse Gas Emissions Associated with Manufacturing

In our Stage V Environmental Protection Program, we established the goals for annual CO₂ emissions from energy consumption of (1) holding emissions levels to under those of 1990 for business sites in Japan and (2) reducing emissions per unit of actual sales by 28% relative to fiscal 1990 levels by the group as a whole including overseas businesses, both by the end of fiscal 2010. We have implemented and are continuing to move forward with the following energy-saving measures.

- Energy-saving measures for equipment with a focus on motive power facilities (introduction of free cooling, inverters, energy saving facilities, fuel conversion, etc.)
- Increased efficiencies through revised manufacturing processes, accompanied by proper motive-power facility operation and improvement of management.
- Proper settings for office air conditioning, energy saved with lighting and office automation equipment.
- Promotion of visualized measurement of energy consumption and proactive use of that data.
- Use of natural energy sources such as solar and wind power (for street lighting and other uses).

As a result of these efforts, our CO₂ emissions due to energy consumption in fiscal 2007 was about 1.147 million tons in Japan. While this was in increase of 176 thousand tons over the previous fiscal year due to increased production of semiconductor devices and plant acquisitions, it represents a 10.8% decrease from fiscal 1990.

CO₂ emissions for the whole group were about 1.345 million tons, and this corresponds to a 68.4% decrease compared to fiscal 1990 in per unit of actual sales terms.

Energy Saving Efforts at Computer Centers and in Air Conditioning Systems

We perform activities from software development to hardware computer system verification, evaluation, and quality assurance at the Fujitsu, Ltd. Numazu plant. These activities take place at the computer center at the plant. Although we have adopted the traditional through-the-floor air conditioning to cool the computers (large-scale computers, servers, and other systems) efficiently at this computer center, starting in fiscal 2007 we have adopted the following "energy saving tune-ups" which aim at even further reductions in air condition energy consumption. These aim at increasing the efficiency of the air conditioning systems and we have reduced the number of operating air conditioning units and optimized and eased the operating conditions (settings).

- Use of an appropriate air conditioning capacity for the thermal load generated by the computers (avoiding excess or insufficient cooling capacity)
- Review of the computer layout (unification of the intake and exhaust directions and the layout in the parallel direction for the consolidated layout and air flow)
- Modification of the floor air vent positions (changed to the computer intake vent side) and selection of the intake vent type (slit, punch-formed, and other grill types).
- Implementation of prior studies using air flow and temperature distribution simulation



Air Flow and Temperature Distribution Simulation Example (floor plan)

Energy Consumption CO² Emissions (Japan only and Group Total) and Trends in CO² Emissions per Unit Sales (Group Total)

CO2 emissions (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) (tons/100 million yen) CO2 emissions (Japan only) - Per unit actual sales (group total) (tons/100 million yen) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (group total) CO2 emissions (Japan only) - Per unit actual sales (Ja



* CO₂ conversion coefficient for purchased electric power: Our results for fiscal 2002 and later are calculated as 0.407 tons CO₂ per MWh. (We expect the coefficient to be 0.34 tons CO₂ per MWh in 2010.)

* Actual sales: Consolidated sales compensated by the Bank of Japan's corporate goods price index (electrical equipment). (Per unit value = CO2 emissions/actual sales)

Cutting Emissions of Greenhouse Gases Other than CO₂

The semiconductor industry has established a voluntary action plan to cut the emissions of PFC, HFC and SF₆, which are all greenhouse gases.

We have set a target of reducing emissions of greenhouse gases other than CO₂ to 10% below the fiscal 1995 level by the end of fiscal 2010. Our Electronic Devices units are continuing to change over to gases with lower global warming potential as well as to install equipment to extract such gases on new manufacturing lines.

Converted to Global Warming Potential (GWP) figures, these gas emissions corresponded to about 549,000 CO₂ equivalent tons in fiscal 2007. Although there are differences in our scale of production and manufacturing processes, this represents a 112% increase from fiscal 1995.

Emissions of Greenhouse Gases other than CO₂ (Total for Electronic Devices)



Office CO₂ Emissions Reduction Activities

While we have created environmental protection programs and have optimized office air conditioner temperature settings and reduced power consumption by lighting and OA equipment, for fiscal 2007 we focused on and strove for "Energy saving PC power supply settings" as an activity that every one of our employees could become involved in.

Activity Status at Fujitsu

We are working to achieve energy saving using power supply control settings, such as turning off the monitor when the user is away from their desk and AC adaptors that turn off in the standby state. In these efforts, at the same time as calling on all employees to participate, we investigated the effects of PC energy saving efforts with the participation of about 900 employees at the sales division at company headquarters (Shiodome area), the SE division at Solution Square (Kamata), and the Corporate Environmental Affairs Unit.

At the same time we also looked into problems arising from using energy saving settings for sales and business PCs, and we switched to energy saving settings for the business PCs for which problems do not occur. When we verified the results of these efforts, we saw a reduction in power consumption from OA equipment compared to earlier usage patterns. Based on these results, we now provide only PCs for which the energy saving options have been set in advance for company-internal business PCs.

System Defender Box (SDB)* Energy Saving Activity

At the Fujitsu FSAS Central Headquarters, we focused on turning PCs off at night, installed a unique Fujitsu support tool, System Defender Box (SDB) at 13 locations, and implemented PC operation-time management from January through June in 2007. As a result, we found that we were able to reduce CO₂ emissions by about 4 tons annually.

Also, we increased our company-internal awareness of power saving by applying ECO yellow card stickers to equipment whose power is left on all the time and by providing detailed logs to group managers. Six months after we started measurement, we found that we had established the habit of turning off the power in OA equipment within the company.

Based on these results, we plan to deploy these efforts to the whole company at Fujitsu FSAS. This activity is also being promoted as a Qfinity activity (see page 28)

* System Defender Box (SDB)

This is a Fujitsu-developed automatic concentration tool that is used by IT resource management services. It is used by hardware products such as servers and PCs that are connected to a network and collects log and configuration information 24 hours a day, 365 days a year. This allows notification by email when a problem occurs or when there is a change to IT infrastructure, such as the operating states or load conditions of the various hardware.



About $\mathbf{4}$ tons of CO₂ can be eliminated per year.

Overview of Energy Consumption CO₂ Reduction Effects

With Local and International

Basic Policy for Chemical Substances Management

Basic Approach and Management System

We have established "Prevention of environmental risks that could lead to environmental pollution or adverse health effects due to the use of harmful chemical substances" as our basic policy for chemical substances management, we manage the amounts used for about 1,200 chemicals, and we work to reduce the amount discharged and implement appropriate management at every business site.

In fiscal 2007, we strengthened the functions of an existing chemical substances management system and increased the input operation efficiency for chemical substances registration and amounts handled management operations.

Results for Fiscal 2007

In our Stage V Environmental Protection Program, we propose the target of reducing VOC atmospheric emissions from business sites by 30% from fiscal 2000 levels by the end of fiscal 2009.

In addition to aiming for thoroughgoing and appropriate management of the target VOC chemicals and review of our manufacturing processes, in fiscal 2007 we also implemented reduction measures such as installing organic solvent collection units in semiconductor plants. As a result of these efforts, the total VOC atmospheric emissions for the whole group in fiscal 2007 was 363 tons, which corresponds to a 23% reduction from fiscal 2000 levels. The following graph shows the conditions in fiscal 2007.

Although we have not set targets for target PRTR substances, we are managing the amounts handled and the amounts emitted.

VOC Atmospheric Emissions



Fujitsu Receives 2007 PRTR Award for Excellence

The PRTR award was established in 2004 by the Center for Environmental Information Science to recognize companies and business sites that proactively promote communication concerning chemical substances.

In fiscal 2007, of the 14 applicants, our lwate Prefecture plant (currently the Fujitsu Microelectronics, Ltd. Iwate plant) was awarded one of three Outstanding Performance Awards. This was the first time for a site in Iwate Prefecture to receive a PRTR award.

The lwate plant uses Fujitsu's own CG (Cost/Green) index to promote green process activities that strive to save energy in the manufacturing process, manage chemical substances, or reduce waste production. While other Fujitsu Group plants are also promoting environmental activities using the CG index, the lwate plant is particularly proactive in activities designed to achieve smooth communication with the local area, for example, by participating in the annual reporting



event sponsored by the prefecture and explaining the plant's efforts at environmental protection to the residents of the local region. This award was given in recognition of those efforts.

Receiving the Award

Reducing the Amount of Waste Generated Basic Approach

In working towards creating a recycling-minded society, we have adopted a basic 3R policy (reduce, reuse and recycle) and in aiming for an even higher level of 3R achievement, we encourage all our employees to separate waste materials into different categories for more effective recycling.

Fiscal 2007 Performance

In the Stage IV Environmental Protection Program, we set the goal of reducing the amount of waste generated by our business operations by 3% compared to fiscal 2005 levels by the end of fiscal 2009.

The total amount of waste generated by the Fujitsu Group came to 33,947 tons in fiscal 2007. While the results for the previous fiscal year corresponded to a 2.5% decrease, they corresponded to a 2.4% increase compared to fiscal 2005. This increase was due to increased production of semiconductors.

Amounts of Waste Generated*1 34,827*2 (tons) (29845)* 35,000 33,148*2 (28,821)*3 33,947 Reference level 32,500 Target: 3% reduction 30.000 27.500 0 FY2005 FY2006 FY2007 FY2009 (target)

*1 Statistics for 12 Fujitsu sites and 30 Group companies.

- *2 The values for 2005 and 2006 include the values for Fujitsu Semiconductor Technology, which became an object of consolidation starting in 2007.
- *3 Values in parentheses are for the range that was reported the previous year.

Effort to Recycle Fluorite

While hydrofluoric acid is indispensable in semiconductor manufacturing, it also generates large amounts of sludge in effluent wastewater processing. At the Fujitsu Microelectronics, Ltd. Mie plant, we succeeded in creating and recovering high purity fluorite from wastewater with high concentrations of hydrofluoric acid by adopting a revolutionary new technology. This new technology allowed us to reduce the amount of sludge generated by about 40%. Furthermore the recovered fluorite can be used as a raw material for making hydrofluoric acid.



Responding to Soil and Groundwater Pollution

We have reviewed our internal rules established in fiscal 2006 in response to soil and groundwater problems and will handle such problems based on these revised rules for soil and groundwater surveys, policies, and disclosure.

In the future, at the same time as performing planned surveys and, if pollution is discovered, implementing cleanup operations and countermeasures appropriate for the conditions at each business site, we will also disclose relevant information in collaboration with government authorities.

Use of Special-Purpose Returnable Containers for Semiconductors

In fiscal 2007, as a result of a voluntary survey we performed, we found soil and groundwater contamination at six business sites. For all six of these, we reported the state of the contamination and explained the countermeasures we would take to the relevant authorities and the local citizens. We have been implementing these countermeasures at all six sites since last year.

See the following web page for an overview of our efforts at solving soil and groundwater contamination problems, the results of surveys on soil and groundwater contamination at our business sites in Japan, and cleanup measures.

Groundwater Conditions

We have dug monitoring wells for monitoring the influence outside our sites of contamination due to groundwater at business sites where soil or groundwater contamination has been found and continuously monitor those wells. The table below lists the largest of the most recent measurements for chemicals whose measurements are recognized to have exceeded legal limits in fiscal 2007 and are due to past business activities.

Business Sites and Chemical Substances which have been Recognized to Exceed Legal Levels in Fiscal 2007

Site	Location	Cleanup and countermeasure	Monitoring well maximum value (mg/ℓ)		Regula- tion
Name	LOCATION	status	Substance	Measured value	value (mg/ℓ)
Kawa- saki plant	Kanagawa to cleanup VOCs		Cis-1, 2- dichloroethylene	0.768	0.04
plant	Prelecture	by pumping and	1, 1-dichloroethylene	0.022	0.02
Suzaka plant	Suzaka City, Nagano Prefecture	We are excavating and removing contaminated soil	РСВ	0.0007	Must not be detected.
Oyama plant	Oyama	We are continuing to cleanup VOCs	Trichloroethylene	3.437	0.03
piant	Cíty, Tochigi Prefecture	by pumping and aeration and other methods.	Cis-1, 2- dichloroethylene	5.242	0.04
Nagano plant*	Nagano City, Nagano Prefecture	We plan to implement a policy of VOC cleanup by pumping and aeration.	Cis-1, 2- dichloroethylene	0.30	0.04
Minami Tama plant	Tama Tokyo cleanup using the in	Tetrachloroethylene	Below the standard value	0.01	
(retired)		Cis-1, 2- dichloroethylene	Below the standard value	0.04	
Shinetsu Fujitsu	Shinano machi, Kamimino- chi Gun, Nagano Prefecture	to cleanup VOCs	Cis-1, 2- dichloroethylene	0.18	0.04
		Trichloroethylene	0.043	0.03	

* Business sites where groundwater contamination due to the business site was verified for the first time in the fiscal 2007 survey by monitoring wells used to monitor for influence outside the site.

With Local and International Communities

Environmental Considerations in Distribution

Promoting efficiency and rationalization in distribution that keeps the whole supply chain in view and striving to reduce the environmental load due to distribution

Reduction of Distribution Associated CO₂ Emissions

We promote Green Logistics Activities which strive to reduce CO₂ emissions associated with transportation by coordination between the distribution divisions of all group companies and cooperation between manufacturing and sales divisions. Furthermore, we take advantage of partnerships with our business partners and strive to reduce the environmental load associated with distribution across the whole supply chain.

In our Stage V Environmental Protection Program, we established the goal of reducing the CO₂ emissions associated with transportation by 30% compared to fiscal 2000 by the end of fiscal 2010. In addition to aiming for a modal shift, in aiming for the achievement of this goal, the Fujitsu Group is continuing with its efforts such as increasing the loading efficiency.

Trends in CO₂ Emissions from Transportation (Fujitsu)



Expanding the Application of Modal Shifts

We are working to achieve a modal shift in transportation of PCs to Korea. In July 2007, we opened a new route that starts at Shimane Fujitsu, ships product by rail to Shimonoseki, and then transports by ship to Pusan. This route uses 12-foot railroad containers and is aimed at reducing CO₂ emissions by using both railroad and sea transportation efficiently.

We are also striving to reduce CO₂ emission in the transport of semiconductors and repair parts for PCs by lowering the percentage of air freight used.

Personal Systems Business Unit Acquires Eco Rail Mark Certification

Fujitsu's Personal Systems Business Unit has received Eco Rail Mark certification, which recognizes products and businesses



that proactively work to solve global environmental problems by taking advantage of rail freight transportation. We displayed the Eco Rail Mark in our catalog of PCs for corporate customers which was published in April 2008.

Reducing the Number of Trucks

As a result of reviewing our domestic PC transport routes and improving cargo loading methods (increasing the number of layers stacked), we have reduced the CO₂ emissions associated with transport of PCs within Japan by about 8%. Furthermore, by moving forward with our production reform activities at the Nasu plant and Shimane Fujitsu, we have eliminated external warehousing and now store and ship products from within these plants. This has reduced the amount of transport between factory and warehouse.

Reception of the Minister of Economy, Trade and Industry Award

We implemented a CO_2 reduction effort based on unified concentrated vehicle assignment control from part procurement to product shipment, which was a model business for our fiscal 2006 Green Logistics Partnership Projects. We received the Minister of Economy, Trade and Industry Award for this effort in December 2007.

In this effort, in addition to companies throughout the whole supply chain cooperating to improve the efficiency of distribution, we also constructed a leading-edge tool that automatically calculates CO_2 emissions from measurement data from vehicle mounted terminals and detailed transport data. Furthermore, we worked to advance multiple efforts, such as eliminating and consolidating of distribution centers and converting distribution information to data. This award recognized these efforts.

Reduction of Environmental Load Associated with Distribution

To reduce the environmental load of the distribution process as a whole, we are promoting 3R efforts in packaging for both products and parts.

Use of Special-Purpose Returnable Containers for Semiconductors

We have achieved elimination of external cardboard boxes and reuse of shock absorbing materials by using small returnable containers and a significant reduction in the use of packing materials in the shipment of semiconductor devices within the Fujitsu Group.



Special-purpose returnable containers for semiconductor devices and their use at Fujitsu IT Products, Ltd.

For the Environment Operating Activities and Environmental Load (Material Balance)

We promote environmentally friendly business activities through overall quantitative assessment of our environmental load from the life cycle and supply chain standpoints.

Material Balance



Calculation Methods

		INPUT
Development / Raw Materials Planning & Design Procurement		Material inputs to our major products* shipped in fiscal 2007 (raw materials per unit for each product times the number of units shipped in fiscal 2007). We have modified the calculation method used starting this fiscal year; packaging materials and accessories are now classified under "Others". (Using this method to calculate the value of the previous fiscal year gives 39,249 tons.) Glass is also classified under "Others". * Major products: Personal computers, mobile phones, servers, workstations, storage systems, magnetic disk drives, MO drives, printers, scanners, financial terminals, retail terminals, routers, LAN access equipment, access network products, mobile phone base stations, and electronic devices.
Manufacturing / Development	Chemical Substances	Volume of PRTR Law target chemicals handled by plants/sites in fiscal 2007
	Water	Volume used by plants/sites in fiscal 2007
	Energy	Electricity, oil and gas consumed by plants/sites in fiscal 2007
Distribution/ Sales	Energy	Energy consumption in transportation in fiscal 2007
Usage Energy Electricity consumption by major products shipped in fiscal 2007 (Assumed hours of use per product x age-based electricity consumption x the number of units shipped in fiscal 200		Electricity consumption by major products shipped in fiscal 2007 (Assumed hours of use per product x age-based electricity consumption x the number of units shipped in fiscal 2007)
Collection/Reuse/Recycling		The weight ratio of recycled parts and resources with respect to the processing volume of post-use products is calculated according to the method of the Japan Electronics and Information Technology Industries Association. It excludes collected waste other than post-use electronic products.



Calculation Methods

		OUTPUT		
Development / Planning & Design	nning & Materials material for each product times the number of units shipped in fiscal 2007) * Main products: Personal computers, mobile phones, servers, workstations, storage systems, magnetic disk drives, MO drives, printers, scanners, terminals, retail terminals, routers, LAN access equipment, access network products; mobile phone base stations, and electronic devices.			
Procurement Manufacturing / Development	Chemical Substances	Measuring the concentrations of PRTR Law target chemicals discharged through plants' drains and exhaust ports in fiscal 2007 and multiplying the total volume discharged (nickel compounds, manganese compounds, etc.) or total volume emitted (xylene, toluene, etc.), or calculating based on the chemical substance balance (xylene and toluene).		
bereipinen	Atmospheric Release	CO ₂ : CO ₂ discharge volume associated with energy consumption by plants/sites in fiscal 2007 (Energy consumption times CO ₂ conversion factor) NOx, SOx: Calculated from concentrations in gases discharged from vents (boilers, etc.) by plants/offices in fiscal 2007 Greenhouse gases other than CO ₂ : Discharge volume of process gases used in semiconductor manufacturing in fiscal 2007. (Calculated by formulas such as <volume gas="" of="" used=""> x <ratio consumed="" in="" reactions=""> x <detoxification ratio="">) VOC: Emission amounts of the substances subject to emissions restrictions stipulated by the four electric and electronics associations for factories and business sites for fiscal 2007</detoxification></ratio></volume>		
	Water Discharge	Wastewater volume discharged by plants/sites into sewerage or rivers in fiscal 2007 BOD: A measure of the emission volume of organic pollution of water discharged by businesses employing the volume of oxygen consumed when organic matter in water is removed by microbial activity COD: A measure of the emission volume of organic pollution of water discharged by businesses employing the volume of oxygen consumed when organic matter in water is removed chemically by oxidation.		
	Waste	Volume of Waste Generated: The volume of waste disposal by plants/sites in fiscal 2007 Volume of Waste Disposal: The volume of landfill disposal and simple incineration by plants/sites in fiscal 2007 (including waste which is not a zero emission target)		
Distribution/ Sales	Atmospheric Release	The total CO ₂ volume in fiscal 2007, including both fuel consumption by Fujitsu's shipping business when measurable, and shipping distance x freight weight x coefficient when the freight of companies other than Fujitsu is included, as in mixed load transportation		
Usage	Atmospheric Release	The volume of CO ₂ emissions during use of major products shipped in fiscal 2007 (Assumed hours of use per product, age-based CO ₂ emissions x units shipped in fiscal 2007)		

Basic Approach

We recognize the importance of communication with all our stakeholders and actively promote communication activities through a variety of opportunities such as sustainability reports, exhibitions, and web sites. In addition, through bidirectional communication, we try for improvement of our daily environmental protection activity.

Environmental Considerations at Exhibitions and Events

We make a wide range of eco-friendly efforts at exhibitions and events such as the Fujitsu Forum and shareholders' meetings, including carbon offsets for electrical power used by proactive use of green power, reducing paper use, and taking advantage of eco-friendly materials.

For example, at the Fujitsu Forum 2008, held in May 2008, these eco-friendly efforts resulted in a reduction in CO2 emissions equivalent to about 6.2 tons compared to the Fujitsu Forum 2007



Fujitsu Forum 2008

Green Power Certificate

Fujitsu Forum 2008

http://www.fujitsu.com/global/news/pr/archives/month/2008/ 20080326-01.html

Environmental Considerations in Brochure Printing

We have further strengthened our previously implemented environmental standards for brochure printing and since June 2007 have been using Forest Stewardship Council (FSC) certified

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paper, soy ink, and waterless printing. These contribute to the environment by reducing CO₂ emissions, reducing the amount of toxic effluent discharge, and in

SOYINK n

Examples of Eco-Friendly Brochure Printing

other ways as well.

- 1935 • Park-style design adopted for new Kawasaki Plant at the suggestion of Fujitsu's founder, Manjiro Yoshimura.
- 1972 • Environmental control sections established at each plant.
- 1987 Ozone Layer Protection Committee established.
- Environmental Committee established. 1989
- Environmental management evaluation system implemented. 1990
- 1991 Environmental Engineering Promotion Center established.
- 1992 Fujitsu's Commitment to the Environment formulated.
 - Use of CFCs and carbon tetrachloride for cleaning eliminated. Energy Saving Committee established.
- 1993 Product Recycling Committee established.
 - Waste Control Committee established.
 - Fujitsu Environmental Protection Program (Stage I) formulated.
 - Product Environmental Assessment Guidelines formulated. Domestic Affiliated Companies' Environmental Protection
 - Council established.
 - Environmental Information Service (FJ-CUG) inaugurated.
- 1994 First issue of Eco-Plaza environmental bulletin published.
 - Use of 1,1,1-trichloroethane eliminated.
 - 1st Fujitsu Group Environmental Technology Exhibition held.
 - Fujitsu Environmental Emblem designed.
 - Overseas Environmental Information Network begins operation
- 1995 Environmental Management System Committee established.
 - Recycling system established and implemented.
 - Fujitsu Group Worldwide Environmental Protection Council established.
- 1996 Fujitsu Environmental Protection Program (Stage II) formulated. • Environmental Engineering Center homepage placed on intranet.
 - Chemical Emissions Reduction Committee established.
 - First Environmental Report published.
- 1997 • Environmental homepage established on Fujitsu website. • All domestic manufacturing sites certified ISO14001 compliant.
- Reforestation activities conducted in Thailand. 1998
 - Green Product program launched.
- Environmental accounting introduced. 1999
 - Reforestation activities conducted in Vietnam.
- 2000 Four development and service sites in Japan certified ISO14001 compliant.
 - Corporate Environmental Affairs Unit established.
 - Desktop PC awarded Eco-mark for first time.
- 2001 Fujitsu Environmental Protection Program (Stage III) formulated. • Calendar using paper from sustainable forest published.
 - Reforestation activities conducted in Malaysia.
- A world's first: Tin-zinc-aluminum lead-free solder developed. 2002 • A world's first: Biodegradable plastic parts with lower
 - environmental load employed in notebook computers.
 - Fujitsu Group Environmental Policy established.
 - A world's first: Magnesium alloy recycled in-house applied in notebook computers.
- 2003 • Support for reforestation activities employing Rhythm Forest reforestation network game initiated.
 - Zero waste emission achieved by all 13 plants in Japan.
- 2004 ISO14001 integrated certification acquired by all Fujitsu Limited sites, among largest systems in Japan.
 - 100% Green Product ratio achieved for all newly developed products.
 - Fujitsu Group Environmental Protection Program (Stage IV) formulated.
- 2005 ISO14001 certification acquired by all Group companies in Japan. Supply of Super Green Products begins.
- 2006 ISO14001 globally integrated certification acquired, including overseas Group companies. Establishes global environmental management framework for the Group as a whole.
- Fujitsu Group Environmental Protection Program 2007 (Stage V) formulated.
 - Green Policy Innovation project, which reduces our customers' environmental load through green IT, started.

With Our Customer

With Our Employees

For the Environment