

# Global Warming Countermeasures

In order to prevent global warming, we will move forward with energy savings in our plants and offices, cut emissions of greenhouse gases, build efficient logistical networks and provide IT solutions together with products that save or stimulate the saving of energy. We will do this throughout the entire life cycles of our business activities.

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

**Aim at increasing environmental efficiency throughout product life cycles.**

- To reduce carbon dioxide emissions from energy consumption down to or below actual emissions in fiscal 1990 by the end of fiscal 2010. (15% reduction from fiscal 2000 levels by end of fiscal 2006.)
- To reduce greenhouse gases other than carbon dioxide by 10% from actual emission levels in fiscal 1995 by the end of fiscal 2010.
- To contribute to the reduction of greenhouse gases by efficient physical distribution, product recycling, and development of energy-saving products.

## Fiscal 2004 Performance

- Carbon dioxide emissions due to energy consumption were about 1,281,000 tons, a 20.5% decrease compared to fiscal 2000 levels (an 18.3% increase if compared to fiscal 1990 levels).
- Emissions made up of other greenhouse gases (PFCs, HFCs, SF<sub>6</sub>) were about 475,000 tons, an 83.2% increase compared to fiscal 1995 levels.

## Our Thinking on Preventing Global Warming

On February 16, 2005 the Kyoto Protocol came into effect, and there is international insistence on pressing ahead even more vigorously with measures to halt global warming.

We in the Fujitsu Group are hard at work to prevent warming throughout the life cycles of our business activities. We have established a fiscal 2010 target for reducing the direct emission of greenhouse gases from energy consumed in our plants and offices, or gases used in manufacturing, in conformity with agreements made within the industry in Japan.

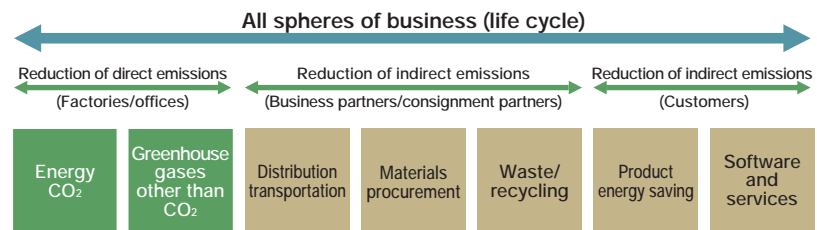
We have also begun activities to diminish indirect emissions, such as

emission of carbon dioxide or other greenhouse gasses at non-Fujitsu facilities in conjunction with distribution activities, the manufacture of procured components, or in scrapping or recycling processes.

In addition, by providing products and

environmental solutions that contribute to energy savings, we are helping customers to save energy and thereby contributing to the reduction of greenhouse gas emissions.

## Scope of Fujitsu's Global Warming Prevention Efforts



## Decreasing Carbon Dioxide Emissions Related to Energy Consumption

Fiscal 2004 carbon dioxide emission from the consumption of energy came to a Group-wide total of 1,281,000 tons-CO<sub>2</sub> (1,097,000 tons within Japan, 621,000 tons for Fujitsu Limited alone), which was down 20.5% from fiscal 2000 but 18.3% higher than in fiscal 1990.

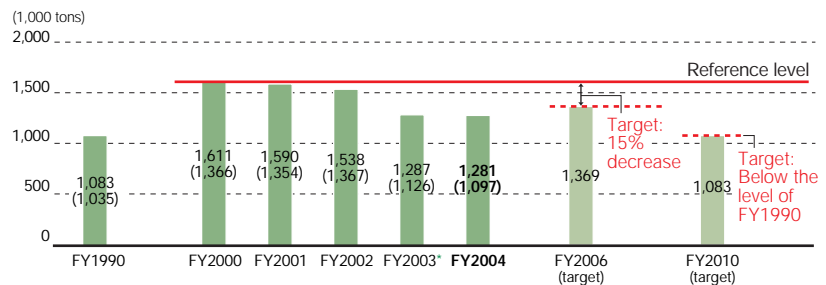
In fiscal 2004, we made cuts of 27,000 tons-CO<sub>2</sub> using the following energy-saving measures. However, due to a number of factors that caused changes in emissions, such as the establishment of new plants, increased production and restructuring of businesses, net carbon dioxide emissions declined by 6,400 tons-CO<sub>2</sub> compared to the previous year.

### Major Energy-saving Measures

- Energy-saving measures for equipment with a focus on motive power facilities (introduction of free

## Carbon Dioxide Emissions Related to Energy Consumption (Group Totals)

(figures in brackets are emissions for Japan only)

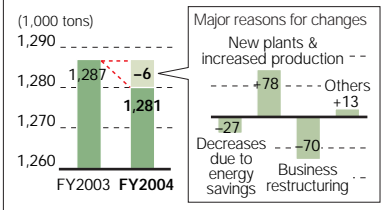


Note: We have reviewed and changed the performance figure announced for fiscal 2003.

cooling, inverters, energy-saving facilities)

- 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
- Energy-savings consciousness applied in newly built plants (see P56)

## Change in Carbon Dioxide Emissions Related to Energy Consumption



## Example

### Introducing Natural Gas Cogeneration

The Fujitsu Numazu Plant is involved in testing large-scale computers and providing quality assurance, and it consumes a large amount of electric power. Thus, the plant was designated as a business entitled to receive support in installing new energy capabilities, through financial assistance from the Ministry of Economy, Trade and Industry (Agency for Natural Resources and Energy), and it introduced highly efficient natural gas cogeneration at the end of fiscal 2004. This system can produce in-house about 65% of the electric power used by the whole plant using gas engines (one 4,450 kW installation, two 845 kW installations). Also, since exhaust steam and hot water is then used as a means for heating, the efficiency of energy usage is further improved.

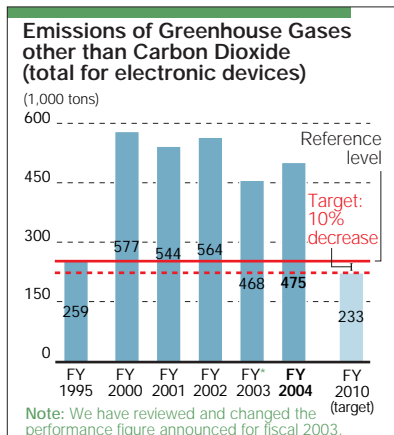


Gas engine power facilities

### Cutting Emissions of Greenhouse Gases other than Carbon Dioxide

The semiconductor industry has established a voluntary action plan to cut the emissions of PFCs, HFCs and SF<sub>6</sub>, which are all greenhouse gases. Our Electronic Devices Group will continue to change over to gases with lower global warming potential as well as install equipment to eliminate PFCs on our new manufacturing lines.

Fiscal 2004 emissions of these types of gases came to 475,000 tons (up 1.4% over the previous year, due to factors like increased production). When compared with fiscal 1995, which is the reference level for our reduction target, this is an 83.2% increase.



### Cuts in Carbon Dioxide Emissions in the Distribution Process

As a manufacturer that must transport its products, we, and others charged with transporting our goods, are reducing carbon dioxide emissions in the distribution process (these are known as "Green Logistics" activities).

#### Various Measures for Achieving Reductions in Carbon Dioxide

- (1) rationalization of packing methods for goods
  - (2) reviewing transport routes
  - (3) reviewing shipping centers
- Also items like reviewing the packaging used in order to improve loading ratios.

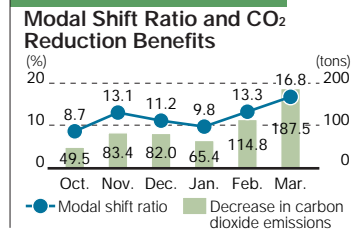
#### Carbon Dioxide Emissions in the Distribution Process (Japan only)

	FY2003	FY2004
CO <sub>2</sub> emissions (tons)	27,851	27,364
Ratio of carbon dioxide emissions to net sales (tons-CO <sub>2</sub> /100 million yen)	1.35	1.31

## Example

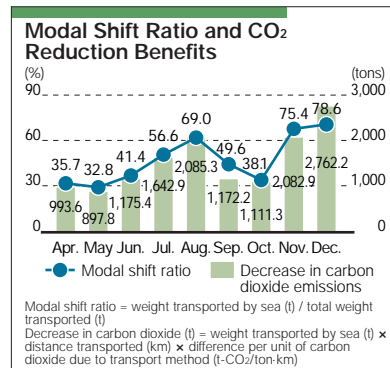
### Transport Optimization System

We are accelerating our modal shift for shipping PCs to corporate clients. In October 2004 we introduced a system that selects the optimal transport method in view of cost, environmental burden and delivery schedule.



### Modal Shift for Overseas Shipments

From June 2004, we have expanded our modal shift from airplanes to ships in the importation of parts into Japan from Hong Kong.



### Procurement and Waste & Recycling Issues

Through the development and use of materials and technologies with a lower environmental burden, reductions in plant waste products and improvements in resource re-use ratios for recovered used products, we have reduced carbon dioxide emissions in procurement, waste and recycling activities.

## Example

### Development of a Fluxless Reflow Device

Together with Ayumi Industry Co., Ltd., we have developed a fluxless reflow device to remove surface oxidized film from, and reshape the bumps for, solder bump electrodes. Through the utilization of this device, the whole flux cleaning procedure using organic fluxing materials that was necessary in the previous process is no longer required. The plan is to cut carbon dioxide emissions by about 68%, including material procurement and fluting material waste (presuming that organic fluxing materials would be incinerated after use).

### Environmental Engagement in Products and Software & Services

By providing our customers with environmental solutions and products designed to save energy, we will reduce carbon dioxide that is produced when our products are used.

### Energy-saving Designs for Our Products

We are working to improve the energy-saving performance of our products through the development of Super Green Products and Green Products. Based on this, we have been able to attain various energy-savings standards and target levels, which will reduce the power consumed when our products are used. (see from P43.)

### Providing Environmental Solutions

We compute the reduction in carbon dioxide emissions that would result from introducing an IT solution, and inform customers of this as part of our solution offering. Also, we certify those IT solutions where carbon dioxide emissions can be cut by 15% or greater as Environmentally Conscious Solutions and provide certification to our customers. (see from P49.)