

Efforts to Prevent Global Warming

We are examining all of our business operations in our efforts to reduce greenhouse gas emissions—not only factories and offices but also transportation and the products and services we provide.

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 74). 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 (see page 57) that achieve energy savings and by providing IT solutions (see page 61) that have the effect of reducing environmental burdens.

Reducing Greenhouse Gas Emissions in Manufacturing

In Fujitsu Group Environmental Protection Program (Stage V), we established the goals for annual CO₂ emissions from energy consumption of (1) holding emissions levels to under those of fiscal 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 the following energy-saving measures.

- Energy-saving equipment, focusing 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
- Adjusting appropriate room temperature for office air conditioning, saving electricity for lighting and office automation equipment
- Promotion of the measurement and visualization of energy consumption and proactive use of that data
- Use of natural energy sources such as solar power

Further, we set up a new Low Carbon Committee at the corporate level in September 2008, establishing reduction targets for each business unit. Stronger measures to achieve these targets follow reforms to processes and equipment (in mounting, assembly and testing) and the development of new technologies. Moreover, our Capital Investment Guidelines define the economic and environmental criteria for investment as we identify and urgently implement priority measures.

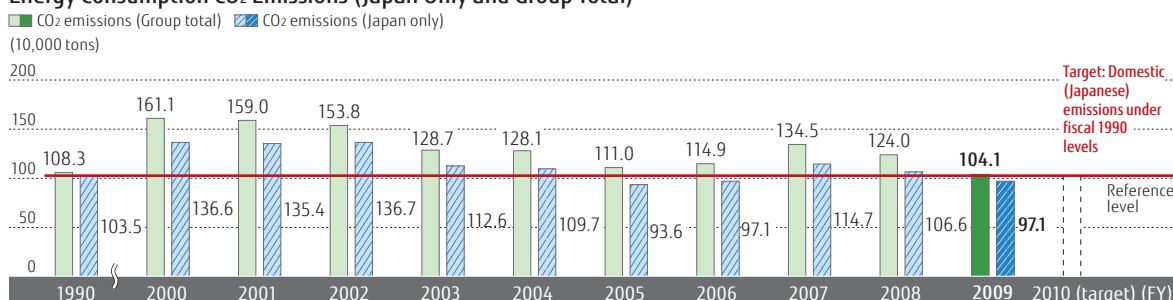
These efforts reduced our CO₂ emissions from energy consumption to 0.971 million tons in Japan in fiscal 2009, well under the 1.04 million-ton target. While this is a year-on-year decrease of 95,000 tons, partly due to business realignment, it was a 6.1% decrease below fiscal 1990, achieving the target set for the end of fiscal 2010 a year early. CO₂ emissions for the entire Group were roughly 1.041 million tons, a 74.4% reduction below fiscal 1990 per unit of actual sales.

We are also participating in the Japanese Government's domestic emissions trading scheme pilot project, launched in fiscal 2008 with the aim of examining further global warming countermeasures based on a medium-to-long-term viewpoint. In fiscal 2009, following the launch of a trial emissions trading scheme*, our emission levels are verified by an organization outside the Group, which confirmed that we achieved our emissions targets for fiscal 2008.

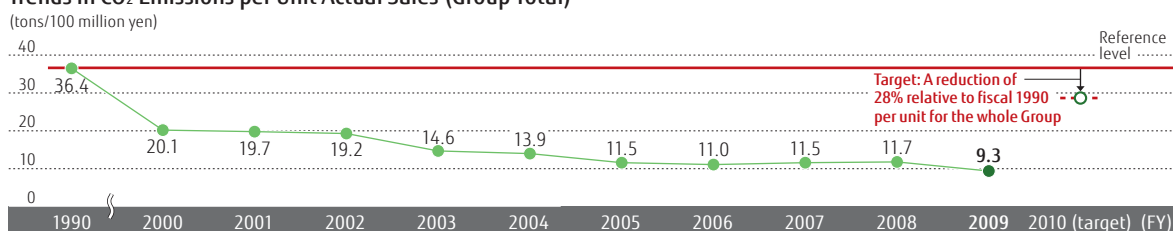
* Trial emissions trading scheme

The principal framework for the trial implementation of an integrated emissions trading market in Japan. Participants voluntarily establish emission reduction targets and are allowed to supplement their own reduction efforts by trading emission allowances and credits.

Energy Consumption CO₂ Emissions (Japan Only and Group Total)



Trends in CO₂ Emissions per Unit Actual Sales (Group Total)



* CO₂ conversion coefficient for purchased electric power: Our results for fiscal 2002 and later are calculated as 0.407 tons CO₂ per MWh.

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

Case Study 1 Shinano Fujitsu Ltd.

Energy-saving measures for compressors and air conditioners

Shinano Fujitsu Ltd. (The Fujitsu Component Group) has been focusing its efforts on energy savings for its compressors and air conditioners, which are responsible for about 40% of total power consumption.

Compressors: reducing pressure, controlling number of units used, eliminating air leakage.

Air conditioners: reducing air-conditioner load by installing waste-heat ducts and insulated jackets on equipment and a rooftop watering system.

Thanks to these and other measures including improving the operational efficiency of boilers, fuel-oil demand decreased and the plant as whole was able to reduce its yearly CO₂ emissions by 1,400 tons.



Waste-heat ducts and insulated jackets are used on the reflow furnace.

Case Study 2 Fujitsu Semiconductor Ltd.

Substantially reducing CO₂ emissions by modifying electrical storage and heat-source facilities

Fujitsu Semiconductor Ltd.'s Iwate Plant and Fujitsu Semiconductor Technology Inc. have been implementing measures to address temporary losses in electrical power*.

They installed electric double-layer capacitors, which can store (and discharge) large amounts of electrical charge, and implemented measures to optimize the operations and improve the efficiency of heat-emitting equipment such as refrigerators and boilers. These strategies have enabled both to substantially reduce their use of fuel oil below the previous systems, and they achieved a combined reduction in CO₂ emissions of 38,000 tons a year.

* Temporary power loss

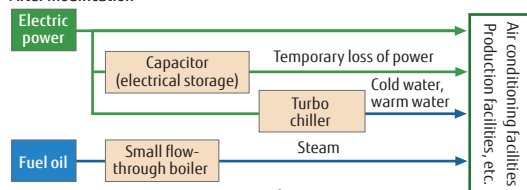
the electric power supply can drop temporarily due to phenomena such as lightning. It can cause significant damage in plants operating advanced ICT equipment.



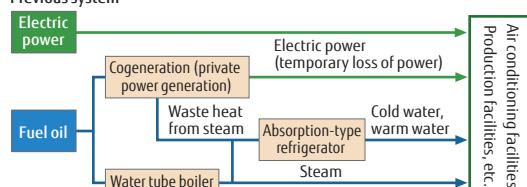
Electric double-layer capacitor

System block diagram

After modification



Previous system



Cutting Emissions of Greenhouse Gases Other than CO₂

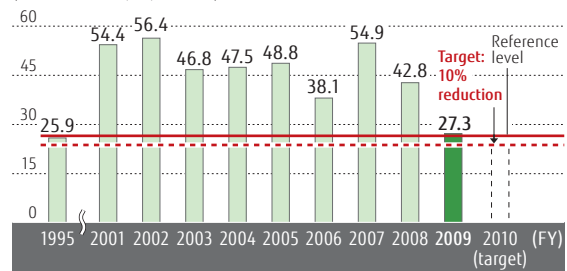
The semiconductor industry has established a voluntary action plan to cut the emissions of PFC, HFC and SF₆, which are all greenhouse gases.

The Fujitsu Group Environmental Protection Program (Stage V) sets a target for reducing emissions of non-CO₂ greenhouse gases to 10% below fiscal 1995 by the end of fiscal 2010. Our Electronic Devices units are changing over to gases with lower global warming potential and extracting such gases on new manufacturing lines.

In fiscal 2009, business reorganization and plant production line unification and integration affected totals, and according to the Global Warming Potential measure, emissions increased from 0.155 million tons the previous fiscal year to 0.273 million tons. This is a 5.1% increase over fiscal 1995, but we expect to achieve our fiscal 2010 target by gas extraction equipment and other measures.

Emissions of Greenhouse Gases other than CO₂ (total for semiconductor business)

(GWP conversion, 10,000 tons)



Targets for Fujitsu Group Environmental Protection Program (Stage VI)

For Fujitsu Group Environmental Protection Program (Stage VI), as in previous stages, we will continue to set reduction targets on a per-gas basis (typically for energy-consumption CO₂ and greenhouse gases other than CO₂) and based on scientific findings and forecasts up to the year 2020, our goal is to reduce our total greenhouse gas emission by 6% by the end of fiscal 2012 compared with fiscal 1990.

Promoting the Use of Renewable Energy

Some Fujitsu business sites have introduced renewable energy in the form of solar power, etc. Moving forward, we will positively increase our use of renewable energy as new data centers and other facilities come to be built (see pages 11-12). Reflecting this, we have established new, higher targets for renewable energy use and we intend to use it to meet these goals.

We also perform carbon offsetting of the electricity we consume by using Green Power certificates at events and exhibitions such as Fujitsu Forums and stockholders' meetings. In fiscal 2009, we purchased a total of approximately 56,000 kWh worth of these certificates.