

Top Message	Interview to Head of Corporate Environmental Strategy Unit	Special Feature 1: Fujitsu Group Environmental Action Plan Stage VIII	Special Feature 2: Digital Innovation	Chapter I Contribution to Society	Chapter II Reducing Our Environmental Burden	Environmental Management	Data Overview	
Reducing Greenhouse Gases (GHG) Emissions and Boosting Energy Intensity at Our Business Sites	Promoting Environmentally Conscious Data Centers	Reduce CO ₂ Emissions from Logistics and Transportation	Promoting CO ₂ Emission Reductions with Our Business Partners	Increasing Amounts of Renewable Energy Used	Efficient Use of Water Resources	Reducing Chemical Substances Emissions	Limiting Amounts of Waste Generated	Product Recycling

Reducing Greenhouse Gases (GHG) Emissions and Boosting Energy Intensity at Our Business Sites

Our Approach

The Fujitsu Group is working in every location where it does business to reduce emissions from its own sites, promote the reduction of emissions along its value chain, and contribute to the reduction of emissions by its customers and society overall, in order to help fight global warming, and to do so from a common understanding of the necessity to halve (or cut by 80%, in the case of developed countries) greenhouse gases emitted across the globe by 2050.

The primary GHG emissions from our business sites (plants, data centers, and offices) are CO₂ accompanying energy (electricity, fuel oil, and gas) usage, and perfluorocarbon (PFC), hydrofluorocarbon (HFC), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃) used in semiconductor manufacturing. We have set reduction targets for these and are striving to decrease the amounts we use and emit.

Summary of FY 2015 Achievements

Targets under the Fujitsu Group Environmental Action Plan (Stage VII) (toward FY 2015)	Reduce greenhouse gas emissions in our business facilities by	20%	(compared to FY 1990)
	Improve energy intensity in our business facilities over	1%	(average rate*)
FY 2015 Targets	Reduce greenhouse gas emissions in our business facilities by	20%	(compared to FY 1990)
	Improve energy intensity in our business facilities by an average	1% or more	(average rate*)
FY 2015 Key Performance	Reduced greenhouse gas emissions in our business facilities by	34.7%	(compared to FY 1990)
	Improved energy intensity in our business facilities	2.9%	(average rate*)

* Average over three years from FY 2013 through 2015.

FY 2015 Performance and Results

Promoted Reductions of CO₂ Emissions Accompanying Energy Consumption

As CO₂ reduction measures, we continued in FY 2015 energy saving practices with the machinery at each business site (including installing inverters and BAT*-applicable machinery, etc.) optimizing production processes and drive machinery, optimizing office air-conditioning temperatures, saving energy used for lighting and office automation equipment, and promoting visualization and data measurement with regard to energy consumption.

In addition, to reduce emissions of gases other than CO₂ (such as PFC, HFC, SF₆, and NF₃), we are switching to low global warming potential (GWP) gases, and installing abatement systems on production lines.

* BAT (Best Available Technologies): State-of-the-art technologies that are available for use and help contribute to reducing GHG.

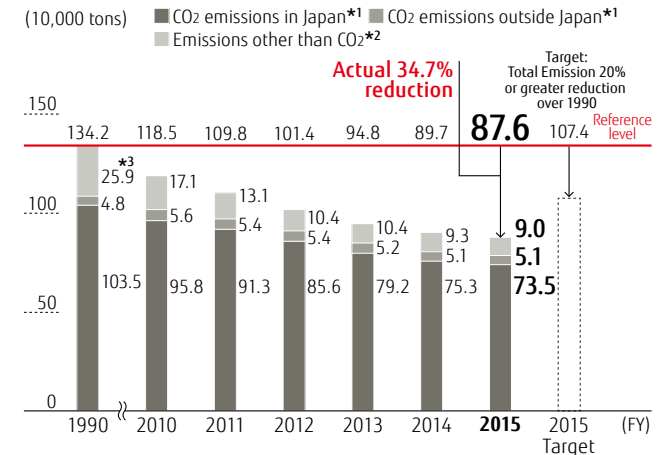
21,000-ton Year-On-Year Reduction of GHG

FY 2015 overall GHG emissions were approximately 876,000 tons (emission rate per unit of sales: 18.5 tons/100 mill. yen), which was a 34.7% reduction compared to FY 1990.

The breakdown of GHG was approximately 786,000 tons of CO₂ (735,000 tons emitted in Japan, 51,000 tons outside Japan) and approximately 90,000 tons of gases other than CO₂.

FY 2015 energy intensity improved 1.5% over FY 2014 while the energy intensity improved an average of 2.9% over three years from FY 2013 through 2015.

Trends in Total Greenhouse Gas Emissions



*1 CO₂ emissions in/outside Japan: CO₂ conversion factor for purchased electric power has been calculated with a fixed value of 0.407 tons of CO₂ per MWh since FY 2002 for performance reports in our Environmental Action Plan.

*2 Emissions other than CO₂: These are converted to equivalent amounts of CO₂ using the global warming potential (GWP) of each gas.

*3 Our FY 1995 performance is taken to be the same as emissions in FY 1990.

FY 2016-18 Targets and Plans

Achieving Targets under the Environmental Action Plan (Stage VIII)

In Fujitsu's Environmental Action Plan (Stage VIII) covering FY 2016-18, the Company has taken into account the Japanese government's pledge to the U.N. to meet Intended Nationally Determined Contributions of 26% GHG reductions by FY 2030 compared to FY 2013 levels, and we are striving for a greater than 5% reduction (over FY 2013) by FY 2018.

At our data centers and in some of our manufacturing of electronic components, increased CO₂ emissions are projected accompanying increases in energy usage. However, we will continue to invest in facilities and improve operations.

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Reducing Greenhouse Gases (GHG) Emissions and Boosting Energy Intensity at Our Business Sites

Main Activities in FY 2015

Using Swirling Induction Type HVAC on Our Semiconductor Wafer Fabrication Line

Mie Fujitsu Semiconductor Limited has added a new production line at the company's Mie plant that uses advanced, environmentally friendly technologies. The cleanroom is equipped throughout with a SWIT® (Swirling Induction Type HVAC System), which will have a smaller environmental footprint than conventional systems while ensuring high-quality manufacturing. This is the world's first use of this technology in wafer fabrication cleanrooms for semiconductors. Compared to existing systems, the annual energy used is expected to be roughly 47% lower for transport power and roughly 32% lower for heat-source power.



SWIT® HVAC system

Fujitsu Augsburg Holds Energy Saving Idea Contest for All Employees

Fujitsu Technology Solutions GmbH (Augsburg, Germany) started an Energy Task Force and held a competition among all company employees to gather energy saving ideas, given that their energy expenses have risen four fold over the past 10 years.

Of the more than 400 ideas submitted through the contest, the best were adopted in FY 2015 and have contributed to energy savings. In particular, the company has become the first in Europe to adopt a flow soldering process with low-temperature solder, which affords a nearly 40% reduction in power usage over the conventional process. The new approach has already been applied in the manufacture of over one million electronic device boards.

Through a variety of energy saving measures, Fujitsu Augsburg has reduced electricity and gas utility costs by one million euros annually and has been able to meet the requirements ahead of time for energy audits stipulated by the EU Energy Efficiency Directive.*

* EU Energy Efficiency Directive: a set of binding measures to help the European Union reach its 20% energy efficiency target by 2020.



Flow soldering equipment using low-temperature solder

Improving Energy Efficiency through a System Optimizing Contracted Electric Power

The Fujitsu Group has built an Environmental Management Dashboard which has been adopted at all of our business sites in Japan, based on a variety of environmental information collected and analyzed in real time and displayed on a portal screen.

We have now added functionality to optimize electric power contracted through the power utility by visualizing peak period reduction measures and automatically transmitting recommendations. Specifically, the system encourages adjustments to equipment power usage by sending alerts indicating the expected times and amounts of power consumption exceeding the contracted power for the next day. From a graph showing the correlation of temperature and power usage, the system makes recommendations for contracted power for the next fiscal year, and displays the cost. Going forward, Fujitsu plans to utilize this system to promote energy saving and cost reductions at sites Group-wide.

Correlation between temperature and power consumption

