

Top Message	Interview to Head of Corporate Environmental Strategy Unit	Special Feature: The Power of ICT	Fujitsu Group Environmental Action Plan Stage VII	Chapter I Contribution to Society	Chapter II Reducing Our Environmental Burden	Environmental Management	<b>Data Overview</b>
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Environmental Accounting/ Environmental Liabilities	Material Balance	GHG Emissions Report based on GHG Protocol Standards	Supplementary Data	<b>Environmental Performance Data Calculation Standards</b>	List of Organizations Covered by the Report on Environmental Activities	Third Party Verification	GRI Guidelines Reference Table
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# Environmental Performance Data Calculation Standards

Subject Period: April 1, 2013 – March 31, 2014

Scope: Fujitsu and the Fujitsu Group (For details, refer to the List of Companies Covered by the Report on Environmental Activities.)

Note: All amounts shown in tons in this Report refer to metric tons.

## Chapter I Contribution to Society (Fujitsu Group Environmental Action Plan (Stage VII) “Our Society”)

Target Item	Indicator	Unit	Calculation Method
Reduce greenhouse gas emissions for our customer and society over 26million tons.	Reduce greenhouse gas (GHG) emissions through the provision of ICT	Tons	Calculated by multiplying annual sales of each solution category by a conversion factor of CO <sub>2</sub> e (carbon dioxide equivalent) savings per unit of sales, which is based on around 300 case studies of Environmentally Conscious Solutions in Japan.
Achieve top-level energy efficiency of more than 50% of the newly developed products.	The percentage of new products that are top-level energy efficient	%	The percentage of top-level energy efficient*1 products with respect to the number of product series that are expected to be developed. *1 Top-level energy efficiency: Achieve more than 25% of the market benchmark in energy efficiency, on a par with “top-runner” products (first in the world or industry, top of the world or industry).
Increase resource efficiency of newly developed products by 20% compared to 2011.	Rate of improvement of resource efficiency of new products	%	The average rate of improvement of resource efficiency*1 (versus FY 2011) of products. *1 Hardware products, under the Fujitsu brand, newly developed in FY 2013-15. Excludes products not designed by Fujitsu (OEM products) and products designed under customer specifications. Note: Refer to “Improving the resource efficiency of products” for the resource efficiency calculation method.
With society, support our employees to volunteer in social activities	Hours of social contribution activities by employees	Hours	Overall contribution hours = Σ participants*1 x activity hours *1 For events organized by the Fujitsu Group, participants also include employee families, stakeholders, etc.

## Chapter II Reducing Our Environmental Burden (Fujitsu Group Environmental Action Plan (Stage VII) “Our Business” “Continuous targets”)

Target Item	Indicator	Unit	Calculation Method
Reduce greenhouse gas emissions in our business facilities by 20 % compared to 1990.	GHG emissions	Tons CO <sub>2</sub>	CO <sub>2</sub> emissions: Σ{(Electricity, fuel oil, gas, and district heating and cooling annual usage) × CO <sub>2</sub> conversion factor for each type of energy*1) *1 CO <sub>2</sub> conversion factor: The factor is based on sources including an energy and industrial process subcommittee report (related to fuel) issued under the auspices of an investigative committee on greenhouse gas emissions conversion calculation methods organized by the Japanese Ministry of the Environment in FY 2002. In FY 2002 and thereafter, the conversion factor for electricity is 0.407 tons CO <sub>2</sub> /MWh (fixed). The conversion factor for district heating and cooling is 0.061 tons CO <sub>2</sub> /G. GHG emissions other than CO <sub>2</sub> : Annual emissions of HFCs, PFCs, SF <sub>6</sub> , and NF <sub>3</sub> at three semiconductor plants (Fujitsu Semiconductor Limited (Aizuwakamatsu Plant and Mie Plant) and Fujitsu Semiconductor Technology, Inc.). Σ(Annual emissions for each type of gas*1 × Global warming potential for each gas*2) *1 Based on the calculation method used by the industries of electrical and electronics: Amount of each gas used (or purchased) × Reactant consumption rate × Removal efficiency, etc. *2 Global Warming Potential (GWP): IPCC (Intergovernmental Panel on Climate Change) Third Assessment Report “Climate Change 2001.”
	Percentage reduction in total greenhouse gas emissions	%	(Total GHG emissions in FY 1990 – Total GHG emissions in FY 2013) / Total GHG emissions in FY 1990 × 100

Target Item	Indicator	Unit	Calculation Method
Improve energy intensity in our business facilities over 1% each year.	Improve energy intensity	%	The improvement rate, year on year, for each business site’s energy intensity is a weighted average of the proportion to the site’s overall energy usage. These values are added to calculate our total improvement rate. Σ(% improvement rate year-on-year in each business site’s energy intensity × wt% proportion of overall energy usage) Target business sites: Japan (energy management plants specified under the Act on the Rational Use of Energy), UK and Australia offices
Reduce CO <sub>2</sub> emissions from transport per sales by 4% or more compared to FY 2011.	CO <sub>2</sub> emissions per sales from transport Reduction rate of CO <sub>2</sub> emissions to FY 2011	Tons/100 million yen %	Transport CO <sub>2</sub> emissions/sales (100 million yen) (FY 2011 transport CO <sub>2</sub> emissions per sales - FY 2015 transport CO <sub>2</sub> emissions per sales) / FY 2011 transport CO <sub>2</sub> emissions per sales × 100
Expand activities reducing CO <sub>2</sub> emissions to business partners in all fields.	The proportion of business partners at or above stage 2 activities (the implementation of CO <sub>2</sub> reduction and minimization activities with numerical targets)	%	The proportion, with respect to all major business partners, of business partners implementing activities at or above stage 2
Increase generation capacity and procurement of renewable energy.	Installed new solar power generation facilities Purchased green power	kW kWh	Total rated capacity of solar power generation facilities installed at business sites Amount of green power purchased for exhibitions and events, such as the Fujitsu Forum, the Annual Shareholders’ Meeting, etc.
Continue efforts for efficient use of water, e.g. water recycling and water saving.	Water usage Amount of recycled water	m <sup>3</sup> m <sup>3</sup>	Annual use of clean water, industrial water, and groundwater (Not including groundwater for melting snow and groundwater extracted for purification) Annual amount of water used for manufacturing and other purposes, then recovered, processed, and used again for manufacturing and other processes
Reduce chemical emissions to less than the average level of 2009-2011 (PRTR: 21t, VOC: 258t)	Volume of substances subject to VOC emissions restrictions Volume of PRTR-targeted substances	Tons Tons	For the 20 VOCs (Volatile Organic Compounds) specified in the environmental voluntary action plans of four electrical and electronic business organizations,*1 total amounts released are provided for those substances handled in quantities exceeding 100 kg annually at individual business sites. For the substances covered by the PRTR law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof), total amounts released are provided for those substances handled in quantities exceeding 100 kg annually per business site.
Reduce the amount of waste to less than average level of 2007-2011 (amount of waste: 31,134t)	Amount of Waste Generated Effective utilization ratio (Japan only)	Tons %	Total amount for industrial waste and general waste generated by factories and offices (Thermal recycling volume + Material recycling volume + Disposal volume) (Amount of effective utilization (Thermal recycling volume and Material recycling volume) / Amount of Waste generated) × 100
Maintain over 90% resource reuse rate of business ICT equipment at Fujitsu recycling centers.	Resource reuse rate of business ICT equipment	%	Based on the calculation method provided by JEITA, recycled components and resources as a percentage of the weight of used products processed in Japan. Excludes collected waste other than used electronic products.

\*1 Four electrical and electronic business organizations: The Japan Electrical Manufacturers’ Association (JEMA), Japan Electronics and Information Technology Industries Association (JEITA), Communications and Information Network Association of Japan (CIAJ), and Japan Business Machine and Information System Industries Association (JBMA)

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### Environmental Liabilities

Indicator	Unit	Calculation Method
Cost for environmental liabilities	Yen	1. Asset retirement obligation (Only asbestos removal cost related to facility disposal) 2. Cost for soil contamination measures 3. Disposal processing cost for waste with high concentrations of PCB (polychlorinated biphenyl)

### GHG Emissions Report based on GHG Protocol Standards

Indicator	Unit	Calculation Method	
Purchased goods and services	Tons	Components purchased during the fiscal year × Emissions per unit of purchases (Source: Embodied Energy and Emission Intensity Data (3EID) published by the National Institute for Environmental Studies Center for Global Environmental Research)	
Capital goods	Tons	Monetary value of capital X Emissions value per unit of capital value (Source: Embodied Energy and Emission Intensity Data (3EID) published by the National Institute for Environmental Studies Center for Global Environmental Research)	
Fuel and energy – related activities not included in Scopes 1 and 2	Tons	Annual amounts of fuel oil and gas, electricity and heat purchased (consumed) mainly at business sites owned by Fujitsu × Emissions per unit (Source: Basic Guidelines for Calculating Greenhouse Gas Emissions Via Supply Chains and the Carbon Footprint Communication Program Basic Database Ver. 1 published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry)	
Upstream (Scope 3)	Transportation and distribution (upstream)	Tons	Transportation of goods within Japan: CO <sub>2</sub> emissions related to the transportation of goods within Japan by the Fujitsu Group. CO <sub>2</sub> emissions related to domestic transportation by the Fujitsu Group, based on the Act on the Rational Use of Energy. The fuel economy method (for some vehicles) or the improved ton-kilometer method (vehicle, rail, air, ship).
		Tons	International transport/overseas local transport: transportation ton-kilometers x emission per unit (source: GHG protocol emissions coefficient database)
Waste generated in operations	Tons	Annual amounts of waste (discharged mainly by business sites owned by Fujitsu) processed or recycled, by type and processing method × Emissions per unit of annual amount of waste processed or recycled (Source: Basic Guidelines for Calculating Greenhouse Gas Emissions Via Supply Chains published by the Ministry of the Environment and the Ministry of Economy, Trade and Industry)	
Leased assets (Upstream)	Tons	Annual amounts of fuel oil, gas, electricity, and heat consumed mainly at leased business sites in Japan × Emissions per unit of fuel oil, gas, electricity, and heat consumed (Source: Act on Promotion of Global Warming Countermeasures - GHG Emissions Accounting, Reporting, and Disclosure System)	
Reporting company (Scopes 1, 2)	Direct emissions	Tons	Amount of CO <sub>2</sub> emissions from the consumption of fuel oil and gas (burning of fuel), and GHG emissions, other than CO <sub>2</sub> mainly at business sites owned by Fujitsu *For the calculation method, see page 55, "Greenhouse gas emissions (CO <sub>2</sub> emissions) from business sites" in the Environmental Action Plan (Stage VII).
	Indirect emissions from energy sources	Tons	CO <sub>2</sub> emissions from the consumption (purchase) of electricity and heat mainly at business sites owned by Fujitsu *For the calculation method, see page 55, "Greenhouse gas emissions (GHG emissions other than CO <sub>2</sub> ) at business sites" in the Environmental Action Plan (Stage VII).
Downstream (Scope 3)	Use of sold products	Tons	Electricity consumption during product use × Emissions per unit of electricity (Source: Daily averages for FY 2004 – 2008 from the Summary of Electrify Demand and Supply published by the Ministry of Economy, Trade and Industry, Agency for Natural Resources and Energy, Electricity and Gas Industry Department) Electricity consumption during product use is calculated as electricity usage for the anticipated usage time per product unit × Units shipped for the subject fiscal year. Electricity usage for the anticipated usage time per product unit is calculated as electricity consumed (kw) X Time used (h) / Days X Number of days used / Year X Number of years used. Time used (h), number of days used per year, and number of years used are set according to Fujitsu's internal scenarios.
	End-of-life treatment of sold products	Tons	(Weight of all sold products / Weight of products processed at Fujitsu's recycling centers during the year) × Electricity used at Fujitsu's recycling centers during the year × Emissions per unit of electricity (Source: Electric Power Enterprise (FY 2002 average for 10 electric power companies in Japan, receiving end)

### Supplementary Data

Indicator	Unit	Calculation Method
Measured value of groundwater pollution	mg/L	The highest FY 2013 measurements for substances detected at levels exceeding regulated levels set in the Soil Contamination Countermeasures Act etc. at monitoring wells at the boundaries of sites where past business activities have resulted in soil contamination.

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### Operating Activities and Environmental Load (Material Balance)

Indicator	Unit	Calculation Method
<b>INPUT</b>		
Raw Materials	Tons	Material inputs to our major products*1 shipped in FY 2013 (raw materials per unit for each product x the number of units shipped in FY 2013)
	Tons	For the 20 VOCs (Volatile Organic Compounds) specified in the environmental voluntary action plans of four electrical and electronic business organizations,*2 total amounts handled are provided for those substances handled in quantities exceeding 100 kg annually at individual business sites, including overseas sites. Substances subject to VOC emissions controls that are also covered by the PRTR law are included in the section on substances subject to VOC emissions controls
Chemical Substances	Tons	For the substances covered by the PRTR law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof), total amounts handled are provided for those substances handled in quantities exceeding 100 kg annually per business site, including overseas sites.
	Tons	For the substances covered by the PRTR law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof), total amounts released are provided for those substances handled in quantities exceeding 100 kg annually per business site, including overseas sites.
Water usage	m <sup>3</sup>	* For the calculation method, see page 55, "Water usage" in the Environmental Action Plan (Stage VII).
Energy consumption (calorie basis)	GJ	$\sum (c(\text{Electricity, fuel oil, gas, and district heating and cooling annual usage}) \times \text{Thermal conversion factor for each type of energy}^{*1})$ *1 Thermal conversion factor (Heating value unit): Based on sources including a table of standard heating values for specific energy sources published in February 2012 by the Agency for Natural Resources and Energy. Conversion factors of 9.83 GJ /MWh for electricity, and 46.1 GJ/1,000m <sup>3</sup> for city gas were used.
Purchased electricity	MWh	Annual electricity usage
Bunker A, fuel oil, light oil, benzoin, gasoline	kL	Annual fuel oil usage (or purchases)
Natural gas	m <sup>3</sup>	Annual natural gas usage (or purchases)
City gas	m <sup>3</sup>	Annual city gas usage (or purchases)
LPG	Tons	Annual LPG usage (or purchases)
LNG	Tons	Annual LNG usage (or purchases)
District heating and cooling	GJ	Annual district heating and cooling (cold and hot water for cooling and heating) usage (or purchases)
Energy consumed for transport	GJ	Total value of transport energy consumption for Fujitsu*1 and Fujitsu Group companies*2 *1 Fujitsu (domestic transport): Energy consumption related to domestic transport by the Fujitsu Group, based on the Act on the Rational Use of Energy "Logistics." *2 Fujitsu Group Companies: Calculated from the transport CO <sub>2</sub> emissions from OUTPUT (distribution and sales) using the ratio of Fujitsu (domestic transport) transport energy consumption to transport CO <sub>2</sub> emissions.
Energy	MWh	Electricity consumed in connection with major products*1 shipped during FY 2013 (Amount of electricity used for time estimated per product unit x units shipped in FY 2013)
Resource recycling rate	%	Based on the calculation method provided by JEITA, recycled components and resources as a percentage of the weight of used products processed in Japan. Excludes collected waste other than used electronic products.
Processed volume	Tons	

Indicator	Unit	Calculation Method	
<b>OUTPUT</b>			
Raw Materials	CO <sub>2</sub> emissions	Tons	CO <sub>2</sub> emissions related to all stages from resource extraction through processing into raw materials (CO <sub>2</sub> emissions equivalent for raw materials used per product unit x Units shipped in FY 2013) for the raw materials used in major products*1 shipped in FY 2013.
Chemical Substances	Volume of substances subject to VOC emissions restrictions	Tons	For the 20 VOCs (Volatile Organic Compounds) specified in the environmental voluntary action plans of four electrical and electronic business organizations,*2 total amounts released are provided for those substances handled in quantities exceeding 100 kg annually at individual business sites, including overseas sites. Substances subject to VOC emissions controls that are also covered by the PRTR law are included in the section on substances subject to VOC emissions controls
Development & Design/ Planning & Design	Volume of PRTR-targeted substances	Tons	For the substances covered by the PRTR law (Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof), total amounts released are provided for those substances handled in quantities exceeding 100 kg annually per business site, including overseas sites.
CO <sub>2</sub> emissions	CO <sub>2</sub> emissions	Tons CO <sub>2</sub>	* For the calculation method, see page 55, "Greenhouse gas emissions (CO <sub>2</sub> emissions) from business sites" in the Environmental Action Plan (Stage VII).
GHG emissions other than CO <sub>2</sub>	GHG emissions other than CO <sub>2</sub>	Tons CO <sub>2</sub>	* For the calculation method, see page 55, "Greenhouse gas emissions (GHG emissions other than CO <sub>2</sub> ) at business sites" in the Environmental Action Plan (Stage VII).
NOx emissions	NOx emissions	Tons	NOx concentration (ppm) x 10 <sup>-6</sup> x Dry gas emissions (m <sup>3</sup> /hr) x Operating time (hr/yr) x 46/22.4 x 10 <sup>-3</sup>
SOx emissions	SOx emissions	Tons	SOx concentration (ppm) x 10 <sup>-6</sup> x Dry gas emissions (m <sup>3</sup> /hr) x Operating time (hr/yr) x 64/22.4 x 10 <sup>-3</sup>
Wastewater discharges	Wastewater discharges	m <sup>3</sup>	Annual water discharges into public waterways and sewers (Not including groundwater used for melting snow)
BOD emissions	BOD emissions	Tons	BOD concentration (mg/l) x Water discharges (m <sup>3</sup> /yr) x 10 <sup>-6</sup>
COD emissions	COD emissions	Tons	COD concentration (mg/l) x Water discharges (m <sup>3</sup> /yr) x 10 <sup>-6</sup>
Amount of Waste Generated	Amount of Waste Generated	Tons	* For the calculation method, see page 55, "Waste generated."
Thermal recycling volume	Thermal recycling volume	Tons	Among all types of waste put to effective use, the total volume used in thermal recycling * Thermal recycling: Recovery and use of the heat energy generated by incinerating waste.
Material recycling volume	Material recycling volume	Tons	Among all types of waste put to effective use, the total volume used in material recycling * Material recycling: Processing of waste to facilitate its re-use, and re-use of processed waste as material or raw materials for new products.
Disposal volume	Disposal volume	Tons	Volume of industrial and general waste processed by, for example, landfilling or simple incineration
Transport CO <sub>2</sub> emissions	Transport CO <sub>2</sub> emissions	Tons CO <sub>2</sub>	* For the calculation method, see "Transportation and distribution (upstream)" in the GHG Emissions Report based on GHG Protocol Standards.
Atmospheric Release	Atmospheric Release	Tons CO <sub>2</sub>	Electricity consumption by major products*1 shipped in FY 2013 (Electricity consumed for the assumed hours of use per product x Number of units shipped in FY 2013)

\*1 Major products: Personal computers, mobile phones, servers, workstations, storage systems, printers, scanners, financial terminals, retail terminals, routers, LAN access equipment, access network products, mobile phone base stations, and electronic devices.

\*2 Four electrical and electronic business organizations: The Japan Electrical Manufacturers' Association (JEIMA), Japan Electronics and Information Technology Industries Association (JEITA), Communications and Information Network Association of Japan (CIAJ), and Japan Business Machine and Information System Industries Association (JBMA).