

FUJITSU SEMICONDUCTOR LIMITED
Mie Plant
Environmental Report
2010



1. Welcome



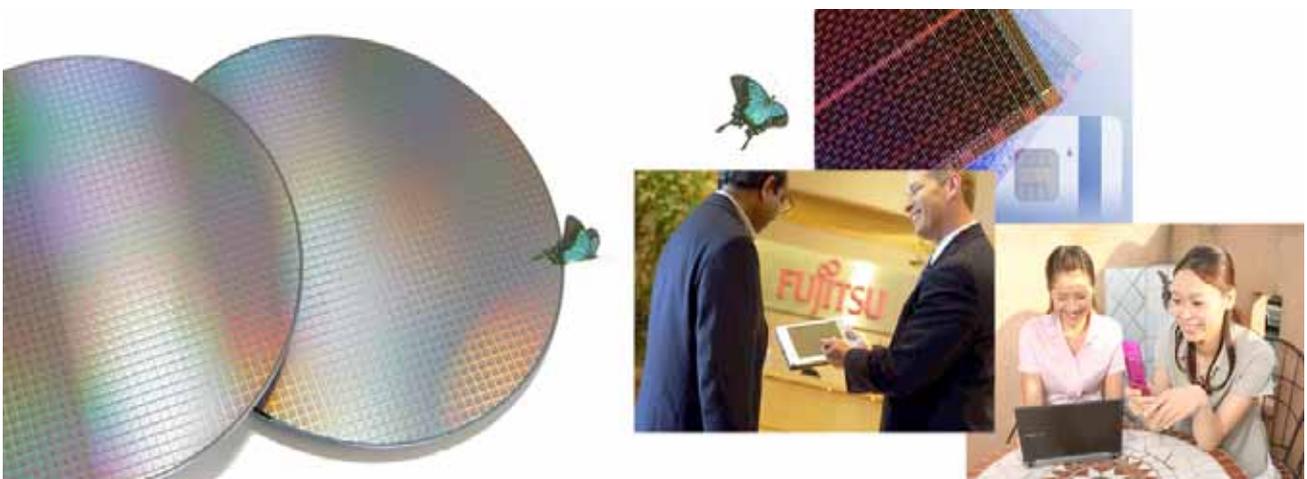
Fujitsu Semiconductor Limited Mie Plant
Plant Manager: Atsuo Shimizu

As the bases of semiconductor manufacturing in Fujitsu Semiconductor Limited, Mie Plant is a front-end processing plant of 200mm- and 300mm-diameter wafers, and it is a core plant which bears the role of mass-producing semiconductor along with Iwate Plant and Aizuwakamatsu Plant.

We are surrounded by the waters of the Kiso Three Rivers (Kisosansen) and the greenery of the Suzuka Mountains. We are striving for the reduction of environmental loads in a number of ways as a cutting-edge green factory leading the Fujitsu Group in terms of environmental activities such as thorough energy saving, chemical substance emission reductions, zero-emission waste (100% effective utilization) in order to preserve rich nature and to coexist with the local areas. As one of those activities, we are installing more scrubbers to eliminate substances causing global warming as the global warming prevention according to our plan.

Our environmental activities are not limited to the inside of our plant. We are pursuing a wide range of approaches from the local community level to the global scale including the activities contributing to the local community, measures against global warming, and biodiversity preservation, and we would like to continue to inform of our environmental activities.

2. Introduction to Mie Plant



The Mie Plant began operating in October 1984 and is a core plant of Fujitsu Semiconductor Limited which bears the role of mass-producing products such as logic LSIs.

Based on the concept that "outstanding end-products consist of excellent ICs," we are contributing to the society as a leading-edge factory that responds to the rapid technological innovations in the ubiquitous society through manufacturing new semiconductors.

In addition, we are always striving for the improvement in safety and quality through efforts such as establishing quality assurance systems based on ISO9000 series certification while pursuing to be an "environmentally friendly plant" according to ISO14001.

Name: FUJITSU SEMICONDUCTOR LIMITED, Mie Plant

Established: October 1984

Business: Semiconductor manufacturing (logic LSIs, FRAM, MPUs for high end servers, foundries, etc.)

Site area: 307,000 m²

Number of employees: Approx. 1,700 (including group companies)

■ 1500 Mizono, Tado-cho, Kuwana, Mie, Japan

3. Aim and Achievement in Environmental Activities

■ Report on objectives and results of activities in the year 2009

Although our production volumes in the year 2009 were more than the level as we originally planned, we were still able to meet all the objectives for environmental activities promoting environmental load reduction, with the exception of the objective in limiting the amount of wastes. The change which a previously sellable item as resource was no longer sellable greatly affected the amount of wastes exceeding the objective, through the year. This issue was improved by the end of the year 2009, and we have already started to sell that item again as resource.

Objectives in the Year 2009	Results	Achievement Status
Limit the CO ₂ emissions through energy consumption to 167,140 ton or less.	151,868 ton	Success
Limit the emissions of PFC* to 86,700 GWP-ton or less.	84,691 GWP-ton	Success
Limit the emissions of VOC** to 65.12 ton or less.	60.75 ton	Success
Limit the amount of wastes to 3,761 ton or less.	3,840 ton	Failure
Carry out 4 activities for local cleanup per year.	4 activities	Success

* PFC: Greenhouse gases other than CO₂ as designated by the Fujitsu Group, including perfluorocarbons (PFC) such as CF₄ and C₂F₆ as well as SF₆ and NF₃ are collectively referred to as PFC for convenience.

** VOC: The collective name for organic compounds that are volatile and enter the atmosphere in the gaseous state, such as ethanol and thinners. These substances cause photochemical smog which can irritate people's eyes and cause sore throats.

■ Objectives of activities in the year 2010

The activity objectives regarding to "further reductions in our own environmental load" and "promotion of environmental social contribution and biodiversity preservation" that the Mie Plant should satisfy have been set according to the Sixth Fujitsu Group Environment Action Plan started from the year 2010.

We are actively promoting activities particularly for "further reductions in our own environmental load" in the viewpoints of both cost cutting and environmental load reduction.

Objectives in the Year 2010
Limit the CO ₂ emissions through energy consumption in the year 2010 to 163,220 ton or less.
Limit the PFC emissions in the year 2010 to 100,255 GWP-ton or less.
Limit the emissions of 1-methoxy-2-propanol (PGME) in the year 2010 to 21.18 ton or less.
Limit the amount of wastes in the year 2010 to 4,470 ton or less.
Carry out local area cleanup activities 4 times per year mainly participating in Kuwana Adopt Program.
Mobilize employees for the local area river and stream cleanup event held once per year.

4. Green Factories

Green process activities

The green process activities are the activities for both cutting costs and reducing environmental loads through the comparison and investigation of the chemical and gas usage differences between at the design and at the actual operations in manufacturing processes. In the year 2009, we reviewed our manufacturing processes and reduced the usage of chemicals and gases and of test wafers.

- Main improvement measures:
 1. Reduce the usage of photoresist and remover liquid by reviewing the processes.
 2. Reduce the usage of material gas and cleaning gas by reviewing the processes.

Reducing chemical substances

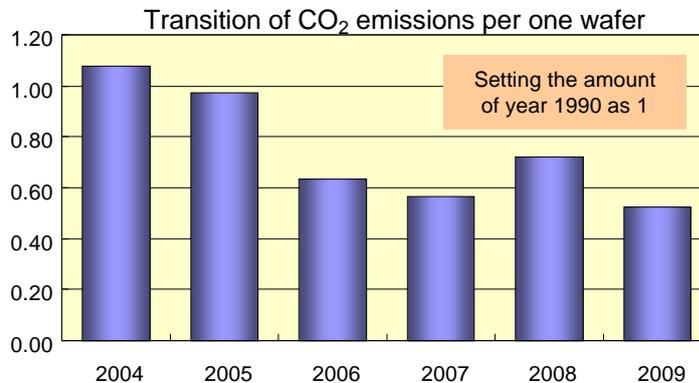
We are operating a chemical substance registration system for inspecting and registering the safety aspects, fire hazard aspects, and impact on the environment of all chemical substances used at the Mie plant before the chemicals are obtained, and are promoting a correct understanding of the constituents of chemicals and gases and reducing the amounts of these consumed.

- Main measured to reduce amount used:
 1. Reduce the amount of photoresist and surface processing agents used, and completely stop using products containing PFOS
 2. Reduce the amount of solder plating liquid used
 3. Reduce the amount of products containing chemical substances subject to PRTR and amount of organic solvents used
 4. Reduce the amount of cleaning gases such as NF_3 used

Measures to counter global warming

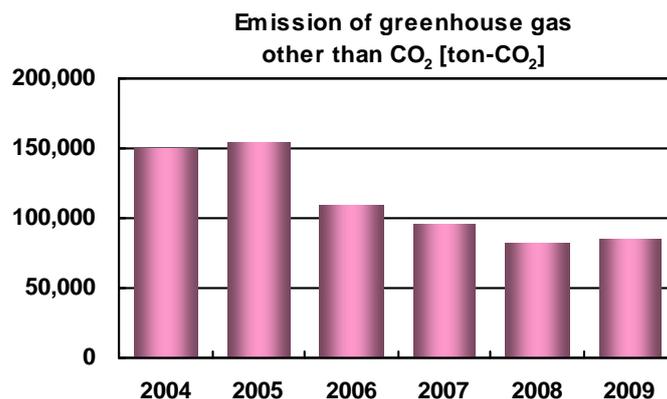
Reducing CO_2 emissions through energy consumption

Mie Plant is promoting efforts to save energy in the aim for reducing the energy consumption per one product wafer. In the year 2009, we reduced by 47% compared to the amount used in the year 1990.



Reducing the emissions of greenhouse gases other than CO_2

We are installing PFC scrubber according to the plan and are working on to reduce the emissions to achieve the industry objective set for the year 2010.



5. Environmental Social Contribution Activity

We held 4 cleanup activities for the area surrounding the plant and parks managed by the city as "City Cleanup Campaign" including the Adopt Program* run by Kuwana City. Also, we continued to hold the "Cleanup Hike (Tadoyama)" and "River and Sea Clean Campaign" where family members of our employees were also invited to participate. Total 340 people participated in these activities in the year 2009. Furthermore, we provided approximately 4,400 kg of organic fertilizer to our nearby schools and farms and at sporting events and cultural festivals where local residents participated.



Adopt Program



River and Sea Clean Campaign

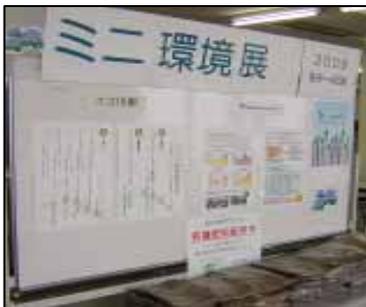


Free distribution of organic fertilizer

(*) The Adopt Program is a program where volunteers from citizen and business select a location from the public spaces such as roads and parks managed by the city and perform cleanup and beautification activities.

6. Environmental Awareness Activities for Employees

We conduct activities in June every year to coincide with National Environment Month with the aim of improving the environmental awareness of employees. We also work towards the "Green Curtain" separately from environment month. The main activities in 2009 were as follows.



Small-scale environment presentation



Environment seminar



Green curtain

7. Efforts for Safe and Secure Plants

We periodically inspect environmental risks and appropriately analyze the environment according to the national laws and Kuwana City regulations.

Also, safety promotion meetings are held with partner companies to share the information regarding work inspections for safety risks and case examples of improvement activities.



Periodic environmental analysis



Environmental and safety risk work inspection



Safety promotion meeting with partner companies

8. Compliance with Environment-Related Rules and Regulations

■ Compliance with gas emission and effluent laws and regulations

The concentrations of Fluorine gas emission were found to have exceeded the value agreed upon with Kuwana City in gas emission and effluent monitoring in the year 2009. We reported the status and its corrective measure to Kuwana City. This excess was caused by the partial corrosion in the scrubber. We repaired the corroded part and corrected the exceeded value to the agreed value or less.

■ Measures for inspecting soil and groundwater

In regards to the lead and fluoride contamination of soil and groundwater in our site as reported to Mie Prefecture and Kuwana City in May 2008, we have been continuously cleaning the contamination source and monitoring the surrounding environment. We reported the condition to Mie Prefecture and Kuwana City.

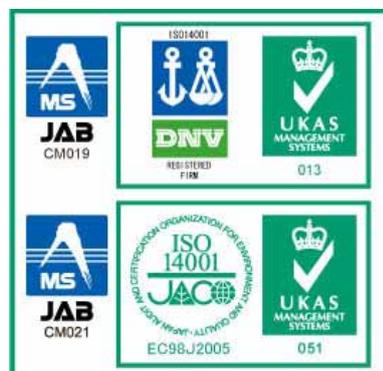
9. Environmental Accounting

We have “Environmental Accounting” to understand the outcome values related to environmental protections and environmental load reduction activities and to evaluate the environmental investment effectiveness. In the fiscal year 2009, the total cost was 880 million yen (50 million yen less than the previous year), and total outcome was 1270 million yen (300 million yen less than the previous year).

2009 Environmental accounting results table (unit: million yen)

Item	Scope	Cost	Outcome
Costs and outcomes within the operation area	Preventing pollutions, preserving the global environment, recycling resources, etc.	860	1,271
Costs and outcomes in upstream and downstream processes	Waste product recycling, green procurement, etc.	-	-
Management activity costs and outcomes	ISO14001, environmental education, environmental public relations, etc.	20	4
Research and development and solution business costs and outcomes	Research of environmentally friendly technology for products, etc.	-	-
Social activity costs and outcomes	Donation to and support of environmental preservation groups, etc.	-	-
Handling environmental damage costs and outcomes	Restoration from soil and groundwater contamination, etc.	-	-
Total		880	1,275

10. Environmental Management Systems



In the fiscal year 2005, the Fujitsu Group acquired ISO14001 global integrated certification, the international standard for environmental management systems. Both domestic and foreign group companies have been working on environmental activities based on the same management system.

Mie Plant has the annual internal audit to grasp and evaluate its status in environmental load reduction, environmental preservation, and compliance with ISO standards comprehensively. Based on those results, we effectively continue our environmental activities and strive for promoting better environmental management.

FUJITSU SEMICONDUCTOR LIMITED, Mie Plant

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Publishing supervisor: Atsuo Shimizu
Editing supervisor: Kaoru Ogawa
Issued date: November 2010
Report covered period: April 2009 to March 2010
Report URL: <http://edevice.fujitsu.com/en/eco/>

