

Environmental Report 2015

Aizu Fujitsu Semiconductor Group Environmental Report



shaping tomorrow with you

社会とお客様の豊かな未来のために

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■ This Environmental Report covers the environment-related thinking, initiatives, and accomplishments of the Aizu Fujitsu Semiconductor Group, which handles semiconductor business for the Fujitsu Semiconductor Group.

■ Details of activities in FY 2014 (April 1, 2014, through March 31, 2015) are recorded herein. However, this will also include some activities from before April 1, 2014, and after March 31, 2015.

■ Aizu Fujitsu Semiconductor Group is the only organization covered by this report.

Provision of high quality with stable manufacturing capability—that is our foundation.



President,
Aizu Fujitsu Semiconductor Limited

渡部 潔

Aizu Fujitsu Semiconductor Ltd., Aizu Fujitsu Semiconductor Wafer Solution Ltd., and Aizu Fujitsu Semiconductor Manufacturing Ltd. Separated from Fujitsu Semiconductor Ltd. in December 2014 and launched as wafer foundry companies.

Through the sincerely keeping our promises to customers, tireless self-improvement, and valuing mutual trust, we aim to be our customer's No.1 partner.

Our factories are located amidst the bounteous natural blessings of Mt. Bandai and Lake Inawashiro. The people of the Aizuwakamatsu area and elsewhere warmly support us.

Into the future, we will continue to care for the environment and seek harmony with the local community as we grow together.

Aiming to be an environmentally-friendly wafer foundry company.



President
(executive in charge of environmental affairs),
Aizu Fujitsu Semiconductor Manufacturing Limited

坂 仁

FY 2014 was the second year of the Fujitsu Group's 7th Environmental Action Plan. Based on this action plan, we pursued various environmental activities in order to contribute to solving broad social issues, including the global environment. We were able to accomplish all our environmental goals for FY 2014.

In December 2014, we began anew as the wafer foundry company Aizu Fujitsu Semiconductor Group. Our customers want us not only to provide products, but also to take action to proactively fulfill our corporate social responsibility.

For example, they want us to take action to reduce chemical and industrial waste such as greenhouse gases (CO₂ from energy consumption, PFC), chemicals, and other gases, and thus to protect the environment even more than we had been. We aim to achieve a competitive "green factory" not just in terms of total volume, but also by improving in terms of unit load (energy and materials used per wafer manufactured and tested).

Corporate Profile Aizu Fujitsu Semiconductor Group

The Aizu Fujitsu Semiconductor Group works to reduce the environmental impact of its business activities and promotes an Environmental Policy that contributes to achieving a "low-carbon," prosperous future.

- Corporate name Aizu Fujitsu Semiconductor Limited
- Head Office No.4 Kogyo Danchi, Monden-Machi, Aizu Wakamatsu City, Fukushima Prefecture, Japan
- President Kiyoshi Watanabe
- Date Established December 1, 2014
- Business description Management of wafer foundry and wafer testing businesses

ISO 14001 certification status

As a member of the Fujitsu Group, Aizu Fujitsu Semiconductor Group has received certification under the international standard for environmental management systems (EMS), ISO 14001. Please see our website for details.

<http://www.fujitsu.com/jp/group/fsl/about/environment/>

Certification body JACO/DNV

Registration number: EC98J2005

Certified on: September 12, 1995

Updated on: March 23, 2015

Valid till: March 22, 2018

ISO 14001 certification status



| Aizu Fujitsu Semiconductor Group | Extent of certification |
|---|----------------------------|
| Aizu Fujitsu Semiconductor Limited No.4 Kogyo Danchi, Monden-Machi, Aizu Wakamatsu City, Fukushima Prefecture, Japan (AFSL) | Manufacturing (integrated) |
| Aizu Fujitsu Semiconductor Wafer Solution Limited No.3 Kogyo Danchi, Monden-Machi, Aizu Wakamatsu City, Fukushima Prefecture, Japan (AFSW) | Manufacturing |
| Aizu Fujitsu Semiconductor Manufacturing Limited No.6 Kogyo Danchi, Monden-Machi, Aizu Wakamatsu City, Fukushima Prefecture, Japan (AFSM) | Manufacturing |

The Aizu Fujitsu Semiconductor Group promotes environmental management based on the Fujitsu Semiconductor Group's Environmental Policy.

■ Fujitsu Semiconductor Group Environmental Policy

With our customers, we contribute to the protection of a rich global environment, using state-of-the-art technology to provide semiconductor devices with superior environmental characteristics.

Operational Principles

By applying the following principles, we work to prevent pollution of the global environment and reduce the environmental burden of our products throughout their lifecycles, including development, procurement, manufacture, sales, usage, and disposal :

1. By aggressively promoting the development of Super Green Products and the proper management of product chemical content, we improve the environmental characteristics of our products and actively reduce the burden on the global environment and our customers.
2. We aggressively promote measures to counteract global warming and reduce emissions of greenhouse gases (e.g., CO₂, PFCs).
3. We aggressively promote chemical management and reduced emissions of volatile organic compounds (VOCs).
4. We aggressively promote waste reduction and appropriate recycling.
5. We conform to environmental regulations around the world and keep our promises to customers.
6. We work to improve the individual environmental consciousness of our employees, to help them become good environmental citizens, promote the preservation of biological diversity, and make environmental and social contributions in their local communities.
7. We expand the effectiveness and transparency of our environmental management system, driving continuous improvement and development.

■ Environmental Management Activities

We pursue environmental management activities by setting clear numerical objectives in the Aizu Fujitsu Semiconductor Group Environmental Targets and Goals based on the Fujitsu Group's Green Policy 21, Green Policy 2020, and Environmental Action Plan and by systematically and continuously working to improve.

■ Strict Compliance with Environmental Laws and Regulations

During FY 2014, there was one compliance violation related to the Water Pollution Control Act at Aizu Fujitsu Semiconductor Group. In response, the existing system was reviewed and a mechanism that does not cause delays was implemented.

■ Environmental Promotion Committee

The Environmental Promotion Committee meets regularly twice per year for The Environmental Management Representative (EMR) to gather managers from each division and the status of achievement of the entire Group's Environmental Targets and Goals and any issues with them. Information on subjects such as global environmental regulations and trends is exchanged in the committee meetings. This helps with engagement in new environmental activities and promotes compliance.

■ Environmental Audits

Along with performing annual internal environmental audits, we work to strengthen the audits. We take steps such as training internal environmental auditors in order to make them more competent and thus make the audits more effective. We also receive external audits from JACO (Japan Audit and Certification Organization for Environment and Quality) in order to maintain ISO 14001 certification.

Environmental Education and Environmental Risk Reduction

■ Environmental Education

In order to disseminate to its employees the details of the Environmental Action Plans it sets every three years, the Fujitsu Group has been carrying out environmental education for all Group company employees since 1995. In addition to that, the Aizu Fujitsu Semiconductor Group carries out its own annual environmental education for Group employees, all of whom have completed it. In addition, employees in charge of environmental work are given specialized training, such as internal auditor training and waste management practitioner training. Furthermore, the Group works to raise each employee's environmental consciousness by giving them environmental education with content in accordance with business type and condition in the semiconductor business.

■ Environmental Risk Reduction: Initiatives to prevent soil and groundwater contamination

Aizu Fujitsu Semiconductor Group regularly performs environmental analysis in accordance with various laws and regulations in order to verify that there are no problems. In order to respond to the FY 2013 revision of the Water Pollution Control Act, the Group strengthened monitoring by moving buried piping above ground and adding more wells for groundwater monitoring.



Before moving piping above ground



After moving piping above ground

Environmental Action Plan

The Aizu Fujitsu Semiconductor Group makes continuous efforts to control the consumption of resources, including energy and chemicals, in its wafer foundry business activities. It contributes to the reduction of Environmental impacts of its customers and society in order to help realize a prosperous, "low-carbon" future.

■ FY 2014 Activities Results

The Aizu Fujitsu Semiconductor Group achieved all goals based on the Environmental Action Plan, in categories such as reduction of greenhouse gas (GHG) emissions, control of chemicals and waste generation volume, and effective utilization of water resources.

○ Goal Achievement

| Categories | Items | | FY 2014 Targets | FY 2014 results |
|--------------------|--|---|--|------------------------------|
| Our Business | Reduction of greenhouse gas (GHG) emissions | ① | Reduce CO2 emissions from energy consumption to 108,099 tons- CO2 or less. | ○ 95,293t-CO ₂ |
| | | ② | Reduce PFC emissions to 71,040 t-GWP or less. | ○ 68,739t-GWP |
| | Effective use of water resources | ③ | Implement at least 3 effective uses of water resources measures over three years | ○ 7 measures |
| Continuous targets | Restriction on PRTR law-controlled chemical substance discharges | ④ | Restrict discharges of VOCs to 17,291 kg or less | ○ 3,955Kg |
| | Restriction on the discharge volume of waste products | ⑤ | Restrict discharges of waste products to 25,624 tons or less | ○ 1,641 tons |

Global warming countermeasures

① Reduction of CO2 emissions from energy consumption

■ Energy conservation measures at factories

Since the Great East Japan Earthquake in March 2011, the Aizu Fujitsu Semiconductor Group has been taking action to strengthen summer energy conservation. Measures implemented include energy conservation inspections, energy conservation patrols, on-site elimination of energy wasting, identification of means of energy conservation, and employee education activities.

The Group is also acting proactively to reduce energy use by installing inverters on motors, adopting LED tube lights in cleanrooms as well as general areas, etc.



LED tube lights in cleanroom



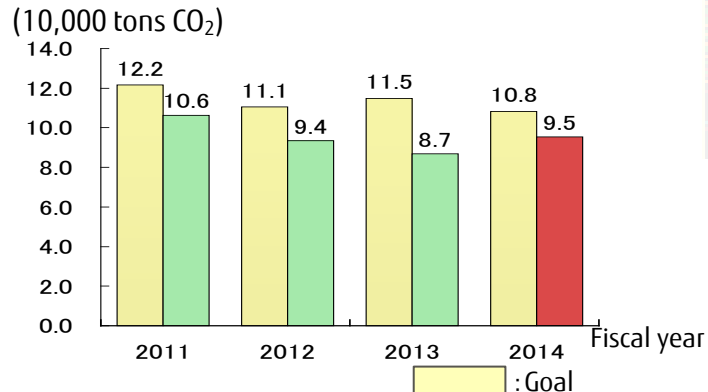
PFC abatement equipment

② PFC emission reduction (Greenhouse gases other than CO2)

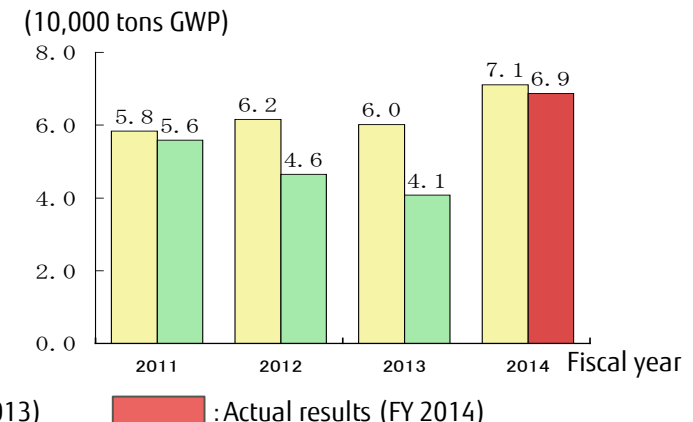
The Aizu Fujitsu Semiconductor Group works to reduce emissions of PFC gas, which has a high global warming potential, from cleaning gas and so on used in manufacturing processes. In FY 2014, running time increased, so volume also increased, but the Group is constantly implementing control measures such as gradual expansion of PFC abatement equipment.

*PFC: Perfluoro compounds

■ CO2 emissions from energy consumption



■ PFC emission reduction



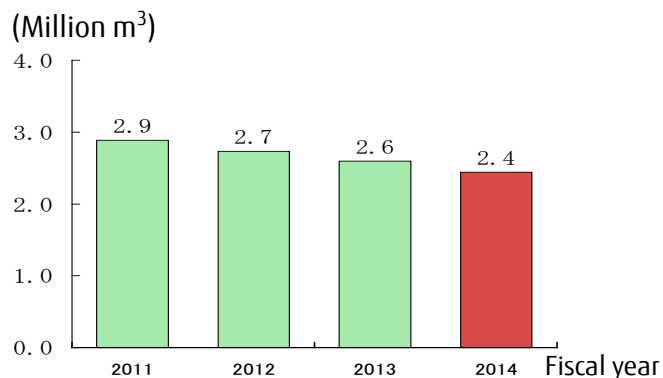
Effective utilization of water resources and control of chemicals and waste

③ Effective utilization of water resources

■ Achievement of optimal water utilization amount

The Aizu Fujitsu Semiconductor Group accomplished great results in the effective utilization of finite water resources. By adjusting the flow volume of pure water, etc., mainly in cleaning equipment in the manufacturing process, the Group reduced annual water utilization from FY 2013 to FY 2014 by about 21,000 m³, without investing any funds. (FY 2014 Fujitsu Group Environmental Award recipient)

■ Water utilization volume



*Implementation of measures on effective utilization of water resources was the goal.

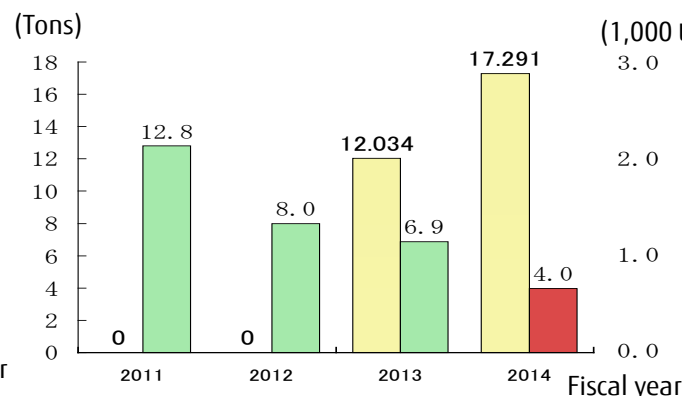
④ Control (management) of chemical substances emissions

■ Emission reduction activities

Production volume increased in FY 2014, but VOC emission volume decreased 42% year-on-year because of appropriate management of organic exhaust gas treatment equipment. The Aizu Fujitsu Semiconductor Group will continue its efforts to reduce VOC emissions from now on.

*VOC: Volatile Organic Compounds

■ VOC emissions



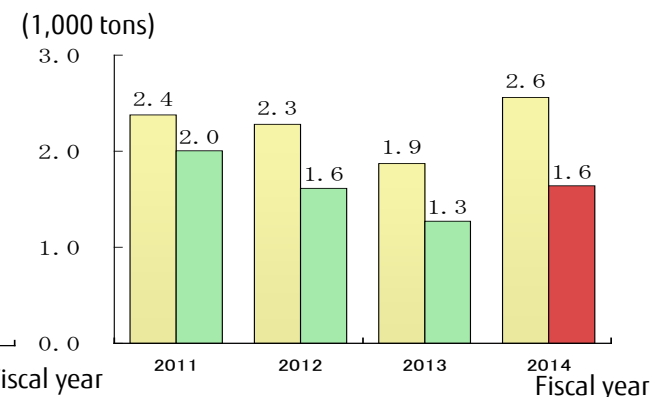
*In FY 2011-2012, goals were set for priority chemicals (VOCs in heavy use).

⑤ Control (management) of volume of waste generated

■ In-house reuse of waste sulfuric acid

In FY 2014, the Aizu Fujitsu Semiconductor Group reduced or reused waste liquid from manufacturing processes by about 90 tons, but increased production volume led to a year-on-year increase of 23%. In the future, the Group will continue to actively promote the 3Rs (reduce, reuse, recycle) and reduce waste generation.

■ Volume of waste generated



■ : Goal

■ : Actual results (FY 2011-2013)

■ : Actual results (FY 2014)

Social Contribution Activities

The Aizu Fujitsu Semiconductor Group is closely involved in community initiatives such as clean-ups near its factories and planting greenery to protect the natural environment.

The Group values its relationship with the local community and will remain involved in various such activities.



Weeding a flowerbed of lavender (June)



Gathering lavender flowers (July—participation from the industrial park and other sites)



Clean-up around the factory (May)




Clean Fukushima
(September—around JR Nishi-Wakamatsu Station)



Aizuwakamatsu City Environmental Festival
(September)

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