

Environmental Management

We at Fuji Electric are united in tackling environmental issues based on our policy of contributing to society by developing our energy-related business globally.

[↓Message from the Environmental Officer](#)

[↓Environmental Vision 2020](#)

[↓Environmental Management 3-Year Rolling Plan](#)

[↓Environmental Management Organizational Framework](#)

[↓Environmental Management in accordance with ISO 14001](#)

[↓Environmental Risk Management](#)

[↓Development of Environmental Activities \(Operating the Green Factory / Green Office Evaluation Systems\)](#)

[↓Environmental Accounting](#)

Message from the Environmental Officer

Major initiatives of Fuji Electric's Environmental Vision 2020 are to stop global warming, create a recycling-oriented society, and meet our corporate social responsibilities. To achieve these aims, we will promote environmental management, and contribute to the protection of the global environment by providing energy-conserving and energy-creating products and technologies. We will also undertake proactive measures to reduce environmental burden through our own production activities.

We started Smart Factory Initiative in fiscal 2012 to respond to rising energy costs and changes in electric power supply situation. This aims to maximize energy efficiency by increasing the energy self-sufficiency ratio, curbing peak electric power, and supplying energy for production activities just in time (JIT), as well as conventional energy conservation activities such as installation of high equipment and raising the awareness of energy conservation.

In fiscal 2013, we moved ahead with system development for visualization and optimal control of power and heat energy at four model factories (Kawasaki, Tokyo, Yamanashi and Mie). Smart concepts established at model factories are then deployed anew in other domestic factories.

Looking ahead, we will enable customers to confirm directly on-site the success of the energy management systems that Fuji Electric has verified, and we will propose to them smart factory systems that utilize these energy conservation technologies.

Fuji Electric will pursue innovation in electricity and heat energy technologies to create energy-conserving and creating equipment and promote them globally, as well as contribute to the realization of a sustainable society.



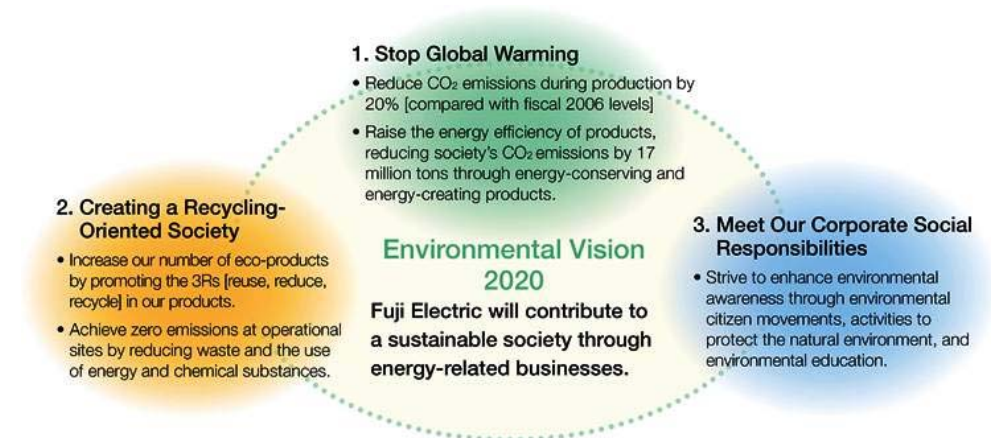
Michio Abe
Corporate General Manager of
Production and Procurement Group
Director and Senior Managing
Executive Officer
Fuji Electric Co., Ltd.

Environmental Vision 2020

Global warming, resource depletion, and other environmental issues are key challenges for the future of humanity.

Fuji Electric regards contributing to the solution of these issues as one of its most important social responsibilities, and, awareness of requirements from society. We seek to enable all employees to engage steadily in environmental efforts each day. To this end, we established Environmental Vision 2020 to guide our activities in keeping with the Basic Environmental Protection Policy.

This vision is centered on three themes of stopping global warming, creating a recycling-oriented society, and meeting our corporate social responsibilities. In addition to reducing the environmental burden of our own production activities, we also seek to achieve a sustainable society by providing products and technologies that leverage our strengths in energy technologies.



Environmental Management 3-Year Rolling Plan

To achieve the goals of the Environmental Vision 2020, Fuji Electric has formulated an Environmental Management 3-Year Rolling Plan, designed to promote ongoing efforts.

The objectives of the plan are to verify each year that the environmental management strategy is addressing societal changes, and to establish detailed targets in line with the Fuji Electric Basic Environmental Protection Policy in various areas, such as the

enhancement of environmental management governance and the establishment of measures to address the use of chemical substances and prevent global warming. Fuji Electric will continually make revisions to the targets and action plans for each fiscal year up to 3 years in advance, and aim to achieve the goals of Environmental Vision 2020 with certainty.



Related Link

[Environmental Management Targets and Achievements](#)

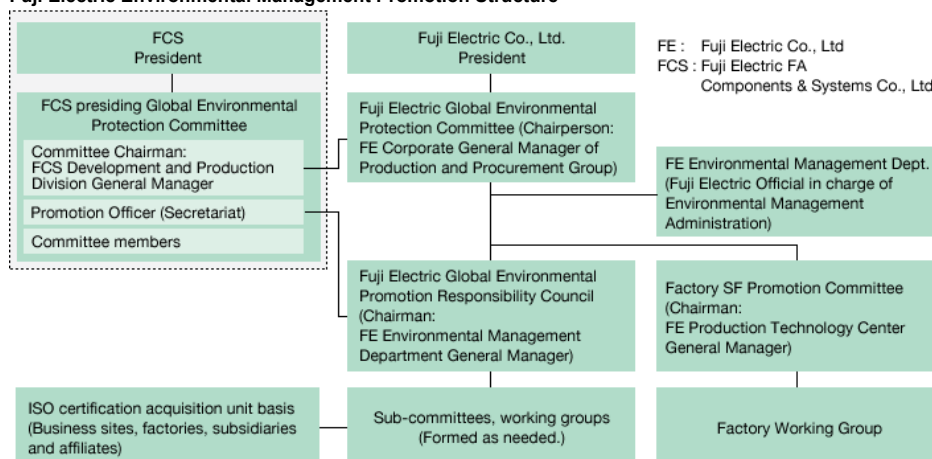
Environmental Management Organizational Framework

To promote environmental management, Fuji Electric established the Global Environmental Protection Committee, which is headed by the director responsible for the environment and which reports directly to the president, and deliberates and decides on basic and comprehensive policies.

Moreover, when necessary we also hold sessions of the Fuji Electric Global Environmental Promotion Responsibility Council, which is comprised of the officers responsible for environmental management at Fuji Electric's principal factories and affiliated companies, and which looks into the development of major policies, as well as examines solutions for new issues.

In fiscal 2012, we established the SF Promotion Committee to promote adoption of smart factory (SF) technologies in response to changes in power supply conditions. This effort is built around the concept of reducing energy use, and better visualizing, analyzing, and optimizing our consumption of power.

Fuji Electric Environmental Management Promotion Structure



Environmental Management in accordance with ISO 14001

Fuji Electric has put in place environmental management systems at all of its production operations and sales bases in Japan as well as all of its overseas production operations and is pursuing third-party certification.

The Status of ISO 14001 Certification

(As of March 31, 2014)

No. of Sites with EMS	Japan	Overseas

Total		29	11
	Acquired	27	9
	Not yet acquired	2	2

Status of Sites Not Yet Acquired

Japan: The Yamanashi Branch Factory and Production Technology Center (Saitama) are engaged in activities to re-acquire certification in fiscal 2015 due to restructuring of business operations.

Overseas: Fuji Electric France S.A.S is engaged in activities to acquire certification in fiscal 2015. Shanghai Fuji Electric Switchgear Co., Ltd. is planning acquisition.

Internal Environmental Audits

Since fiscal 2003, the internal divisions responsible for environmental management administration have continued to conduct annual environmental site inspections of ISO 14001-certified sites.

From fiscal 2012, we reviewed the frequency of audit based on the degree of environmental burden, and in fiscal 2013 conducted audit inspections at 17 sites in Japan and 3 overseas sites.

This time, to deal with revisions of the items regarding structural standards and inspection obligations of storage facilities under the Water Pollution Control Act, which aims to prevent the underground seepage of hazardous substances, patrols at each site placed priority on confirming the state of repairs or repair plans. As a result, we confirm that measures for all the subject facilities will be completed in accordance with the structural standards by May 2015.

For those sites which were not subject to patrol audit this year, or not yet acquired ISO certification, we are making confirmation and instructions regarding compliance with environmental laws and regulations, and measures to reduce environmental risks, by using environment audit checklists and other tools.



Environmental Site Audit in Fuji Electric (Changshu) Co., Ltd. in China

Environmental Risk Management

In promoting environmental management, we must reinforce environmental risk management at each of our production sites in order to maintain stable production.

In fiscal 2013, new Utility Maps were added to the Environmental Risk Maps* that has been made at all 21 production bases inside Japan. The Utility Maps recorded the placement of power distribution and receiving, plumbing and fuel, heating and boiler equipments. Visualization of these equipments not only comprised risk management in terms of being able to see production site pollution or facility aging, it could also be used for energy and resource conservation activities.

* Environmental Risk Map: A map that contains historical data for each production site (such as their history of chemical substance use, history as legally specified facilities, and history of building extensions or reconstruction).

Development of Environmental Activities (Operating the Green Factory / Green Office Evaluation Systems)

Activities based on an environmental management system (EMS) are the focus of Fuji Electric's environmental efforts at each of its operating locations.

To increase the effectiveness of EMS activities for realizing the Environmental Vision 2020, we evaluate each domestic Fuji Electric operating site under the Green Factory / Green Office Evaluation System* and fiscal 2013 was the third year of implementation. The result was an assessment of a gold rating, the highest possible for all bases, and the 15 sites that have achieved gold ratings for three years were recognized as a Green Factory or Green Office. Going forward, we will continue to strive for all sites to achieve a Green Factory or Green Office rating.

*Green Factory / Green Office Evaluation System: The Green Factory / Green Office Evaluation System evaluates ongoing improvements to environmental activities. These include elements of our business activities that relate directly to our Environmental Vision 2020, which is a guidepost to our medium- to long-term environmental activities. Specifically, the system evaluates the number of environmental products developed, the percentage of sales derived from environmental businesses, and the contribution to a reduction in society's CO₂ emissions resulting from our products. Ratings of EMS activities in terms of environment performance are made in three stages of gold, silver and bronze. A site is certified as a Green Factory / Green Office when it achieves a gold rating for three consecutive years.

Green Factory/Green Office Evaluation Factors

- Environmentally friendly products and services (number of products and services developed, sales ratio, etc.)
- CO₂ reduction (contribution during production, and by products)
- Reduced waste and efficient use of resources
- Chemical substance management and reduction of toxic atmospheric emissions
- Reduction of environmental risk and compliance
- Communication with local communities



On-site inspection of Green Factory / Green Office evaluation at Suzuka factory in Japan

Environmental Accounting

Fuji Electric introduced environmental accounting in fiscal 2000 as a key means of assessing environmental management performance. Using the 2005 guidelines released by Japan's Ministry of the Environment, we established in-house calculation methods for environmental preservation costs and benefits. Each year, we ascertain and analyze these costs and benefits and disclose this information to the public.

Stance toward Environmental Accounting Calculations

We calculate "direct benefits," such as revenue from sales of valuable items and energy conservation, as well as "estimated benefits," which is a conversion to monetary value of the energy-savings benefit from the use by customers of existing environmentally friendly products (such as vending machines and some inverters) and energy-creating products (such as solar cells and geothermal systems).

Fiscal 2013 Achievements

Environmental conservation costs totaled ¥16.12 billion, with investment at ¥1.38 billion and expenses at ¥14.74 billion. The environmental conservation benefit totaled ¥44.36 billion, including revenue from sales of valuable items at ¥1.35 billion, savings from energy conservation of ¥0.21 billion, and estimated benefits of ¥42.81 billion.

Of the environmental conservation costs in fiscal 2013, environmental investment totaled ¥0.89 billion, which was used to develop smart factories through the installation of solar and fuel cells, as well as for the installation of energy conserving equipment when upgrading air conditioners and production equipment.

Among the environmental preservation effects were a reduction in costs of ¥0.21 billion brought about by reduced energy and resource use due to the development of smart factories and the making of environmental investments, and the use of improved energy-efficiency Fuji Electric products brought an estimated benefit of savings on power costs of ¥42.81 billion.

Environmental Conservation Costs and Benefits (Fiscal 2013)

Period covered: April 1, 2013 to March 31, 2014

Scope: 12 business sites + 19 consolidated subsidiaries (eight subsidiaries in Japan and 11 overseas subsidiaries)

Environmental Conservation Costs (Fiscal 2013)

(Millions of yen)

Categories corresponding to business operations	Main Content	Total (Compared to the previous term)	Breakdown	
			Amount invested	Expenses
	Costs within the business sites	1,906(-1,253)	893	1,013
1	Pollution prevention costs	406(-142)	114	292
	Global environmental conservation costs	1,072(-1,072)	777	295
	Materials recycling costs	428(-39)	2	426
2	Upstream/downstream costs	14(-9)	0	14
3	Management costs	611(+148)	11	600
4	R&D costs	13,562(-1,782)	478	13,084
5	Social activity costs	9(±0)	0	9
6	Environmental damage costs	20(-7)	0	20
Total		16,122(-2,903)	1,382	14,740

Economic Benefit of Environmental Conservation Measures (Fiscal 2013)

(Millions of yen)

--	--	--	--	--

Categories	Main details	Total (Compared to the previous term)
Revenue	Amount received from sale of valuable items for recycling	1,347(+118)
Savings	Reduction of expenses through energy conservation, reduction of waste disposal cost, reduction of water bill through water conservation	209(-519)
Estimated benefit	Energy reduction through the use of environmentally friendly products by customers	42,806(+10,950)
	Total	44,362(+10,549)

Note 1: The "estimated benefit" is calculated as the economic benefit of energy savings when products with improved energy efficiency are used by customers, and is converted using the following formula:

Benefit (¥) = $\Sigma[(\text{annual amount of electrical power consumed by former equipment} - \text{annual amount of electrical power consumed by new equipment}) \times \text{Volume shipped annually in Japan} \times \text{Electrical power standard cost}]$ (electrical power standard cost: ¥10/kWh)

Note 2: The "estimated benefit" includes environmentally friendly products (such as vending machines, inverters), and energy creation products (such as solar cells, geothermal power generators).