EBARA Group's Environmental targets and results of activities in 2008

To implement the "Environmental Conservation and Us" laid down in the EBARA Group's Code of Conduct, the individual companies and districts of the EBARA Group set targets and have been working for the accomplishment of the EBARA Group targets (2010).

EBARA Group's activity standards

Aiming to become a top contender in environmental engineering and contributing to realizing a sustainable society

EBARA Group targets (2010)	Results of activities achieved in 2008 (related pages in this report)
Environmental conservation activities in daily work	
• Establish self-induced standards regarding the prevention of issues such as water pollution and air pollution for the individual districts and carry out environmental conservation and pollution prevention activities.	Pollution prevention activities implemented at the respective districts and all standards satisfied.
• Prioritize material recycling over thermal recycling. • Achieve a waste material recycling rate of at least 95 percent. • Achieve less than 3 percent of the final landfill disposal rate of waste.	Target achieved with a material recycling rate of 95.0 percent. Target unachieved with a final landfill disposal rate of waste of 3.5 percent (page 41).
• Reduce greenhouse gas emissions by 10 percent from the 2000 level on a CO_2 emissions conversion basis. • Set the basic unit target at offices/districts for reduction.	Target unachieved with a reduction of 6.6 percent from 2007 but an increase of 3.6 percent from the 2000 level (page 41).
• Reduce the CO_2 emissions from product transportation by means of modal shift, etc. • Increase the percentage of low-emission cars used as company vehicles of the Group (including billboard vehicles) to at least 90 percent.	Reduction of 19 percent from the 2007 level. Target unachieved with a rate of 73 percent.
• Reduce the amount of drinking water, industrial water and groundwater consumption by 10 percent from the 2000 level.	Target achieved with a reduction of 21 percent from the 2000 level.
• Introduce and implement an environmental audit of construction work system at the individual Group companies.	Has been introduced at Ebara Hamada Blower Co., Ltd.
• Reduce the emissions of chemicals subject to the PRTR Law by 20 percent from the 2000 level.	Target unachieved with a reduction of 8.5 percent from the 2000 level (page 41).
• Reduce the emissions of chemicals such as toluene, xylene, and dichloromethane by 30 percent from the 2000 level.	Target unachieved with a reduction of 10.9 percent from the 2000 level (page 41).
Contribution to environmental conservation in business activities	
• Set standards for substances to be prohibited, reduced and managed that are contained in products and work on their achievement.	Standards in the process of being formulated in each company.
• Set design standards for the environment and work on their achievement.	Standards in the process of being formulated in each company based on the design guidelines for the environment.
• Set green procurement standards and work on their achievement. http://www.ebara.co.jp/csr/management/green_procure.html	The EBARA Group Green Procurement Guideline published online. Standards in the process of being formulated in each company.
Approach to environmental management	
• Standardize the operation of the environmental management system across the EBARA Group.	Consolidation of the existing Shinagawa and Haneda offices in progress on the occasion of the completion of the Haneda head office building.
• Build an environmental information system shared across the EBARA Group. • Collect and consolidate environmental data across the EBARA Group.	An environmental information collection and aggregation system introduced in 2006.
• Hold regular EBARA Group environmental meetings.	Held on January 29, 2009.
• EBARA must hold managerial level environmental education sessions for the Group companies.	Held on December 3, 2008. To be held as part of the CSR education.
• Disseminate the EBARA Group environmental information outside via the EBARA Group CSR report and website.	EBARA Group CSR Report 2008 issued. Also published on the website. http://www.ebara.co.jp/en/csr/csr/2008/
• Hold stakeholder meetings.	Under consideration (not held in 2008)

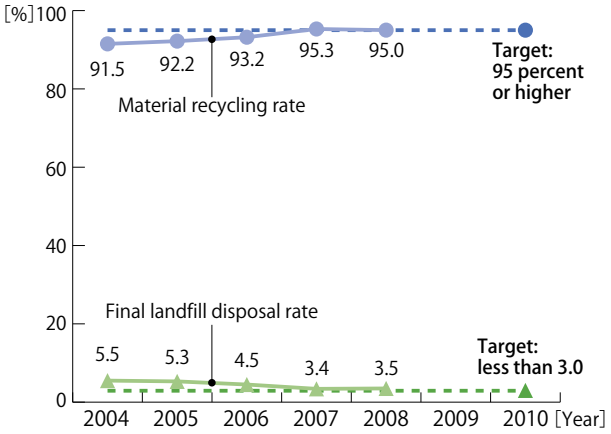
Spain

Rodriguez Sanchez Victoria (age: 7)

Environmental data

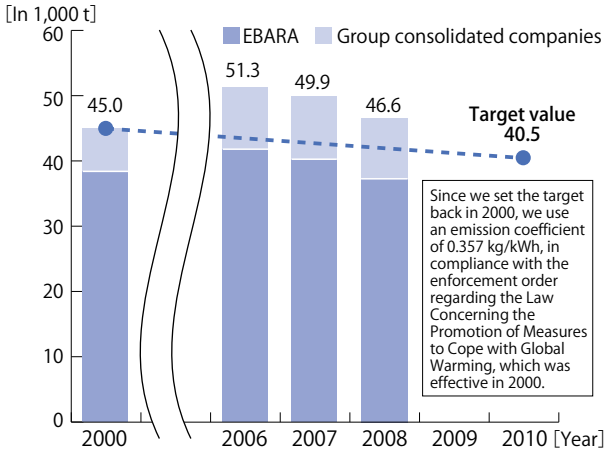
Organization subject to achievement of the EBARA Group Targets and the environmental data is set to be EBARA and domestic EBARA Group consolidated companies.*1

Change in material recycling rate and the final landfill disposal rate



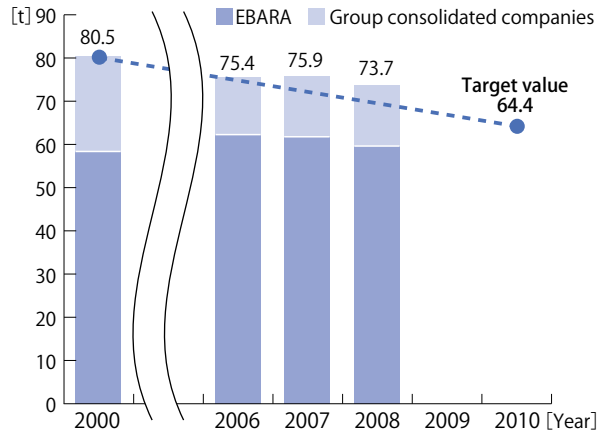
- Material recycling rate: [Material recycling amount ÷ (Material recycling amount + Final landfill disposal amount)] × 100%
- Final landfill rate: (Final landfill disposal amount ÷ waste amount) × 100%
- Final landfill disposal amount: Includes the amount of untreated waste directly landfilled and the amount of residue landfilled without being reused after intermediate treatment.

Change in CO_2 emissions (Electric power and fuel-derived)



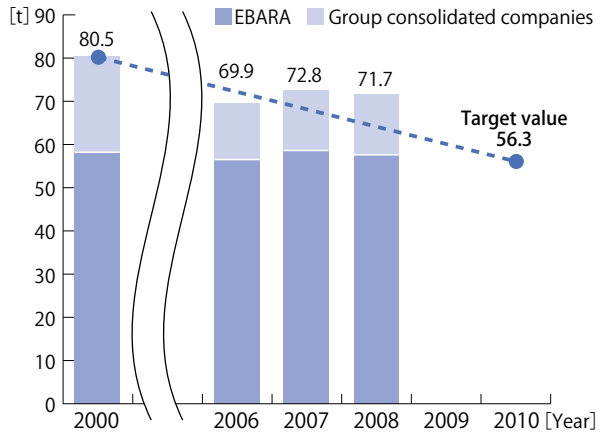
- In 2008, we reduced the CO_2 emissions by 6 percent compared with the figure for 2007 through daily energy saving activities such as the use of an electricity monitoring system.
- In 2008, the roof of the Fujisawa District plant building was coated with heat insulating paint and lighting facilities at districts were replaced with energy-saving products. Even further energy saving effects can be expected in the future.
- At the EBARA Futtsu District, with environmental measures implemented, the building was completed in April 2009 and the relocation of the production facilities from Haneda Plant is scheduled for completion by September 2010.

Change in emissions of substances controlled by the PRTR Law



- PRTR Law: A law to promote improvement in determining and managing the amount of specific chemical substances discharged into the environment.
- Discharge amount: The amount discharged into the environment such as into the air, water and the soil.

Change in emissions of VOC out of substances controlled by the PRTR Law

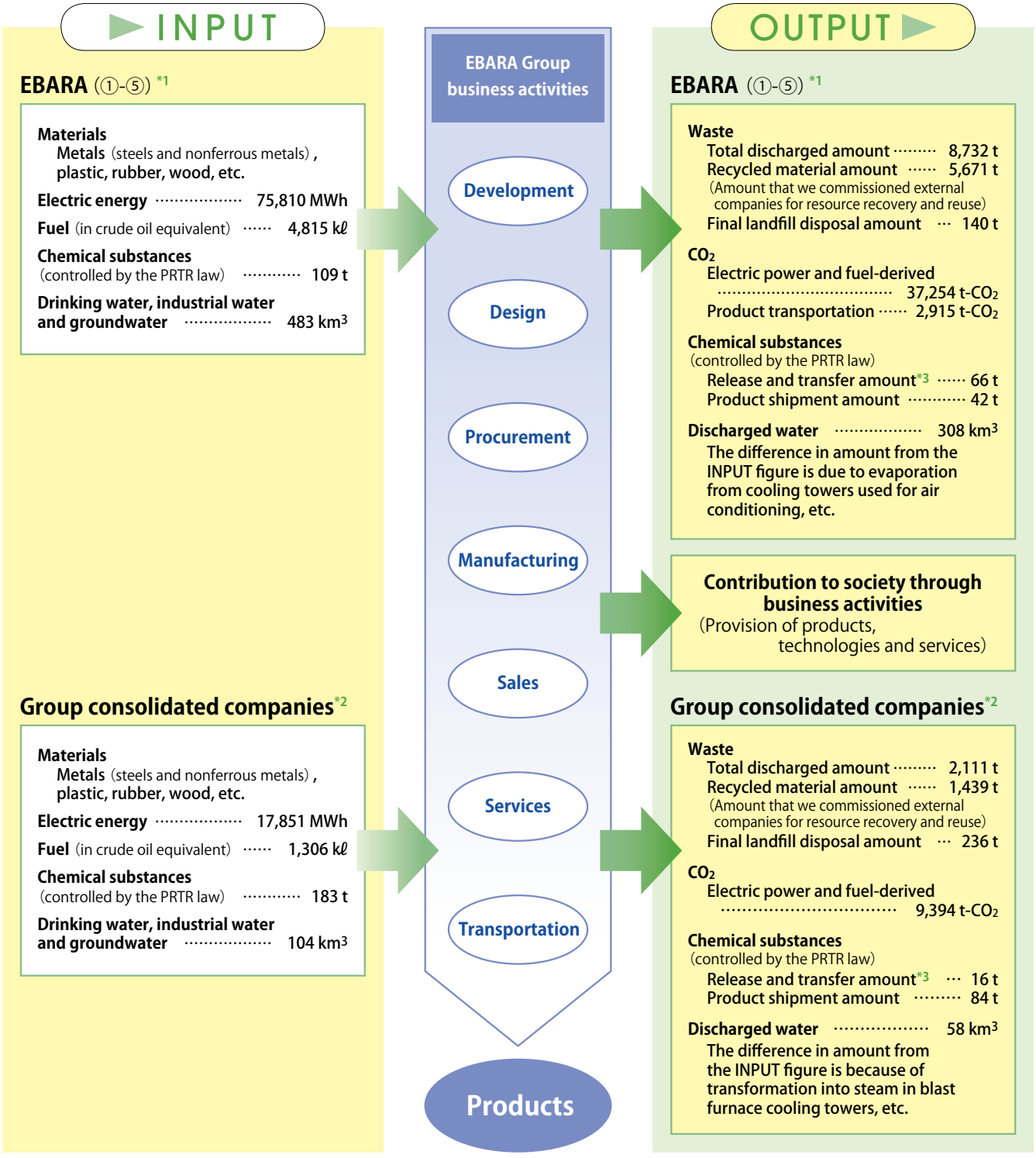


- VOC: Volatile Organic Compounds

*1 [Group consolidated companies] Seventeen organizations including organization Nos. 1 to 14 in the "List of EBARA Group ISO14001 registered organizations" on page 43, EBARA-Byron Jackson, Ltd.; EBARA KIDEN CO., LTD.; Nissetsu Co., Ltd.; and EBARA Shonan Sports Center Inc.

EBARA Group business activities and environmental impact

We determine the environmental impact deriving from our business activities and work on reducing such impact in our offices and districts.



*1 [EBARA (1-5)] Page 43 "List of EBARA Group ISO14001 registered organizations," Nos. 1-5.
*2 [Group consolidated companies] Page 43 "List of EBARA Group ISO14001 registered organizations" Data of Nos. 6-14 companies, EBARA-BYRON JACKSON, LTD.; EBARA Kiden Co., Ltd.; Nissetsu Co., Ltd.; and EBARA Shonan Sports Center.
*3 [Release and transfer] Release amount: Amount released into the environment such as the air, water areas and soil
Transfer amount: Amount moved out of districts as industrial waste

Environmental management

We operate the environmental management systems based on ISO14001.

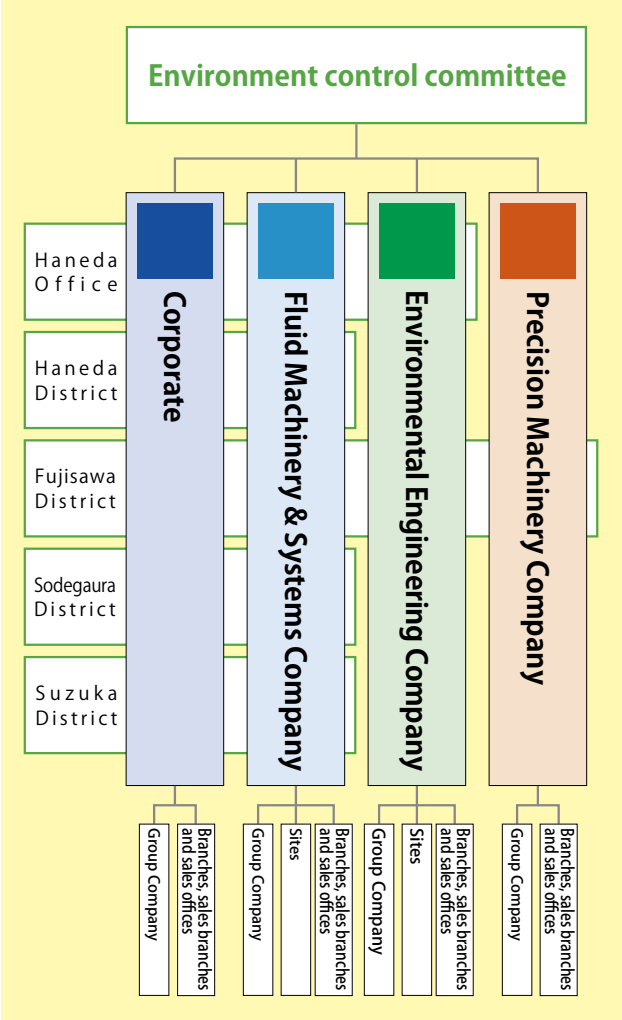
South Korea

Min Sung Jun (age: 6)

Environmental management organization

Reduce the impact on the environment continually that derives from our business activities and work on preventing environmental pollution.
The following chart outlines the EBARA Group environmental management structure. We are working on both the environmental conservation of business hubs such as offices and districts and their surrounding areas (horizontal axis) and product and services-related environmental conservation (vertical axis).
The environmental policies of the individual districts are described on the EBARA website.
http://www.ebara.co.jp/csr/management/regional_policy/

Environmental management structure (As of June 1, 2009)



List of EBARA Group ISO14001 registered organizations

(As of June 1, 2009) In order of registered date

	Registered organization EBARA Group companies included in the scope of registration	Registered date
EBARA		
①	Fujisawa District 【EBARA Refrigeration Equipment & Systems Co., Ltd.; a part of EBARA Agency Co., Ltd.; a part of EBARA DENSAN Ltd.; a part of EBARA Field Tech Corporation; a part of ECE Co., Ltd.; a part of EBARA Industrial Cleaning Co., Ltd.; a part of EBARA Environmental Plant; a part of EBARA Engineering Service Co., Ltd.; and a part of EBARA Techno-Serve Co., Ltd.】	February 5, 1997
②	Haneda District	February 20, 1997
③	Haneda Office 【EBARA branches, sales branches and sales offices and EBARA Environmental Technologies Hokkaido Co., Ltd.】	November 21, 1997
④	Sodegaura District 【Elliott Ebara Turbomachinery Corporation】	January 21, 1998
⑤	Suzuka District 【EBARA HAMADA BLOWER CO., LTD.】	October 11, 2002
Domestic Group consolidated companies		
⑥	Ebara Engineering Service Co., Ltd.	July 18, 2000
⑦	Ebara Field Tech Corporation	March 6, 2002
⑧	EBARA Shinwa Ltd.	July 18, 2002
⑨	Ebara Techno-Serve Co., Ltd. 【A part of EBARA Refrigeration Equipment & Systems Co., Ltd.】	November 8, 2002
⑩	Ebara Kyushu Co., Ltd.	November 18, 2002
⑪	EBARA Industrial Cleaning Co., Ltd.	April 23, 2003
⑫	Ebara Yoshikura Hydro-Tech Co., Ltd	January 19, 2004
⑬	EBARA DENSAN Ltd.	February 27, 2004
⑭	EBARA Metal Co., Ltd.	April 21, 2004
Domestic Group nonconsolidated companies*1		
⑮	Clean System Corporation	October 28, 2004
⑯	Chubu Recycle Co., Ltd.	March 14, 2005
⑰	J-TEAM Co., Ltd.	July 28, 2006
⑱	Oiwa Machinery Corp.	July 19, 2007
Overseas Group consolidated companies		
⑲	Ebara Precision Machinery Europe GmbH	October 16, 2003
⑳	Yantai Ebara Air Conditioner Co., Ltd.	September 26, 2005

*1 【Domestic Group nonconsolidated companies】 Nonconsolidated Group companies in Japan with production facilities conduct corporate environmental audits to avoid and reduce environmental risks (see page 44).

Environmental risk management

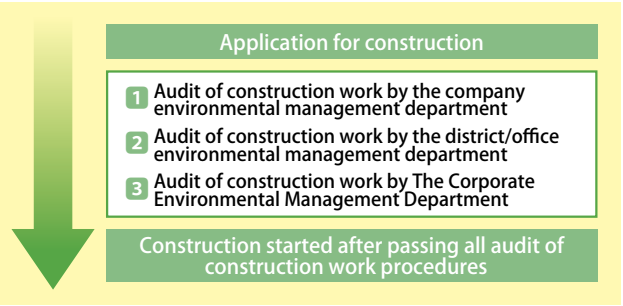
The EBARA Group has introduced a framework of environmental screening and audits for the reduction of environmental risks including environmental pollution incidents.

Environmental audit of construction work

Any construction work in a district or similar place is subject to environmental audit of construction work, and permission to commence construction needs to be obtained in advance.

Three-fold environmental audit of construction work implemented

Construction of new production or welfare facilities or restoration or removal of such facilities may cause various environmental impacts such as waste, vibration and noise. To prevent any violation of environmental laws and damage to neighboring areas, EBARA conducts environmental audit of construction work at the planning stage of construction.



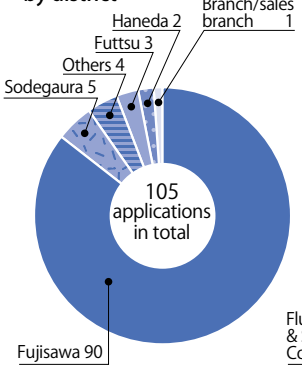
Check with 18 environmental laws

Audit is carried out to check for any environmental impact in facility construction or installation work or in the facility operation phase, noncompliance with environmental laws or inadequacy in terms of occupational health and safety and necessary advice is given.

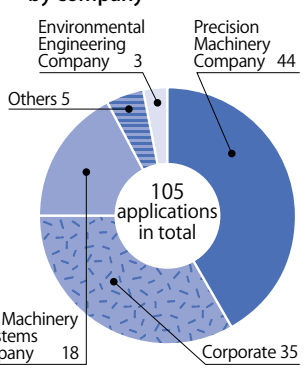
Environmental audit of construction work in 2008

The number of audits of construction work in 2008 came to 105. Methods of reducing environmental impact and notes on work safety are thoroughly disseminated onsite through environmental audit.

◆Number of applications by district



◆Number of applications by company



Environmental audits of the management systems

Environmental auditors check on the compliance with environmental laws and regulations, implementation status of preventive measures against environmental pollution and progress of promotion of environmental management activities.

Environmental audit of the management systems also in a three-fold manner

1 Internal environmental audit (first-party audit)
Independent audit conducted by the company, office or district

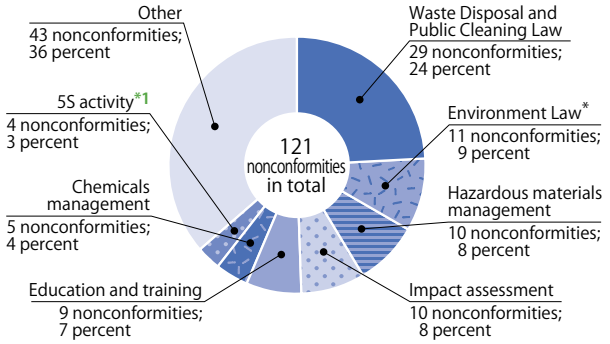
2 Corporate environmental audit of the management systems (second-party audit)
Audit of each site and company of the EBARA Group by the Corporate Environmental Management Department

3 Examination by an external certification body (third-party audit)
Environmental audit of the management systems by an external certification body

Breakdown of nonconformities pointed out by the corporate environmental audit in 2008

The corporate environmental audit in 2008 was conducted on 22 companies on 19 sites mainly by environmental auditors registered with CEAR*2. Points requiring improvement in relation to factors including the Waste Disposal and Public Cleansing Law, revision of hazardous materials management, inadequate identification of environmental aspects, and failure to achieve environmental management program objectives were pointed out, based on which efforts for the improvement have been made.

◆Breakdown of nonconformities identified by the corporate environmental audit (on 19 sites) in 2008



*Mainly inadequate preparation of a list of applicable legal requirements

◆Composition of EBARA's internal environmental auditors registered with CEAR

EMS lead auditor	5 (5) people
EMS auditor	0 (0) people
EMS assistant auditor	23 (27) people

Figures in parenthesis show data for 2007

*1【5S activity】5S stands for *seiri* (sort), *seiton* (straighten), *seiketsu* (sweep), *seiso* (sanitize) and *shitsuke* (school) and collectively refers to these activities.
*2【CEAR】Center of the Environmental Auditors Registration

Environmental education and environmental accounting

We provide environmental education to reduce the EBARA Group's environmental risks and raise each and every employee's awareness on environmental issues and direct their concern and keep them alert about such issues while at work.
In addition, we have introduced an environmental accounting system to grasp the investments and cost effectiveness of environmental activities.

Brazil

Guilherme Casanova Lozano (age: 9)

Environmental education

For everybody from those at management level to all employees, we have in place environmental education programs in line with their functions. For a CSR training session held for the EBARA Group management in 2008, we invited a lecturer from a major electronics manufacturer to give a lecture on an advanced approach to environmentally compatible designs, which we have used as a useful reference for our future internal measures.
For our company-wide general environmental education program, intended for all employees of EBARA offices and districts, personnel in charge of environmental education from the individual districts gather every year to put together common content of educational programs to be given in the year. In 2008, case examples of environmental accidents that occurred in real life and their causes, examples of internal efforts for the reduction of CO_2, examples of environmentally conscious products offered by other companies, and other issues were introduced in the educational materials. As usual, many participants expressed their wish to have continued provision of such education because it helped improve their environmental awareness. For those employees who could not take part in the group education sessions held a number of times at the individual districts, we have prepared an e-learning program with the same content to ensure all employees take the course. To reduce risks in relation to waste disposal, we invited lecturers from outside to give educational programs on the method of on-site checking of waste disposal sites to personnel in charge of environment of Group companies. Furthermore, specialized educational programs for those in charge of environmental conservation such as internal environmental auditors and energy manager is given as appropriate through having them participate in in-house training sessions and external seminars.

Personnel in charge of environmental education from Group companies

Environmental accounting in 2008

The capital investment for the global environment conservation cost increased, compared with that of 2007. This is attributable to energy saving activities.

Period: April 1, 2008 - March 31, 2009
Organizations: EBARA alone (Haneda Office, Haneda District, Fujisawa District, Sodegaura District, Suzuka District Sales Department)

Unit: Million yen, Figures in parentheses show data for 2007.

Environmental conservation costs	Capital investment	Daily expenses*1	Major investment and expenses	Major effect
Pollution prevention cost	0 (4)	178 (53)	● Pollution prevention facility maintenance cost	Comply with laws, agreements and self-induced standards
Global environment conservation cost	428 (57)	0 (0)	● Application of heat insulation paint and replacement of lighting facilities	Reduce amount of electricity consumption Reduce CO_2 (2,181 t annually)
Waste treatment and resource recovery cost	7 (2)	240 (257)	● Waste treatment and resource recovery cost	Reduce the amount of landfilled waste
Environment-related management activity cost	2 (4)	249 (252)	● ISO14001 holding evaluation and renewal evaluation cost ● Environmental auditor personnel expenses	Sustain and improve the environmental management system and avoid managerial risks
Cost on social approach to minimizing environmental impacts	0 (0)	41 (38)	● Greening activities by the EBARA Green Fund ● CSR report preparation cost, and environmental ad and publicity cost	Promote greening, heighten the employees' awareness of environmental conservation, communicate with stakeholders
Other costs	0 (0)	344 (211)	● Fujisawa District incinerator dismantling-demolishing cost	Avoid dioxin-caused environmental risks
Total	437 (66)	1,05 (811)		

Environmental conservation-related research and development cost (tabulated separately from the environmental accounting system)
In 2008, approx. 22% of the total research and development cost as a budget base was devoted to maintaining the environment and improvement-related technology, energy saving, and new energy technology development.

*1 【Daily expenses】 Depreciation is not included.

Global warming prevention measures

The EBARA Group has been striving to reduce CO_2 by replacing facilities and taking various other measures to prevent global warming.

Reduction of CO_2 by heat insulating paint

At Fujisawa District, the roof of a plant building has been coated with heat insulation paint in phases since summer 2008. The purpose of the heat insulating paint is to stop heat from entering from outside by reflection and to block sunlight and thus prevent the temperature rise in the plant.
Up to now, particularly in summer, the roof has been absorbing heat from sunlight, and this heat was transmitted into the air in the plant making the room temperature 1 m below the roof higher than the outside air temperature by more than 10℃. This caused an increased load on cooling systems and led to larger electricity consumption. After the application of heat insulating paint, the room temperature 1 m below the roof was controlled to approximately 5℃ higher than the outside air temperature, which resulted in a decrease in air-conditioning energy consumption, or a reduction of 20 percent in terms of CO_2 emissions.

Application of heat insulating paint on the roof

By fine-tuning temperature and humidity control on a daily basis, the reduction in CO_2 thanks to heat insulating paint can be even more effective. At Fujisawa District Precision Machinery Company, the temperature and humidity in the plant is measured twice a day in the morning and afternoon at 20 locations. Because of the large area of the plant, a combination of overall air conditioning and spot air conditioning is used. Fine-tuning is provided in accordance with the personnel distribution of the day including the adjustment of temperature nonuniformity and stopping of air conditioning in unmanned areas while ensuring the comfort of workers, maintaining accuracy of precision products, preventing dew condensation and ensuring other atmospheric conditions required to maintain quality.
Application of heat insulation paint at Fujisawa District was completed in May 2009. From now on, we will carry out activities to adequately control the temperature and humidity for further reduction of CO_2.

CO_2 reduction by replacement of lighting facilities

At Fujisawa, Suzuka and Sodegaura Districts, the plant lighting facilities were replaced with energy-saving types in 2008. Energy-saving plant lighting facilities, which use reflectors and high-efficiency lamps, are capable of ensuring luminous intensity equivalent to that of the conventional facilities with only 40 percent of electric power consumption.

Plant in Fujisawa District with energy-saving lighting facilities installed

At Fujisawa District, 542 lamps of the plant lighting facilities of the Precision Machinery Company were replaced with high-efficiency lamps. This has reduced the CO_2 emissions for the lighting power consumption of the entire plant including fluorescent lamps by 35 percent from the same period of 2007.
At Suzuka District, where 90 percent of the CO_2 emissions are accounted for by electric power, 162 of the 285 lamps of the plant lighting facilities were replaced with energy-saving lamps, which resulted in an annual CO_2 reduction of approximately 23 t in the entire district.

Plant in Suzuka District with energy-saving lighting facilities installed

Pham Trung Kien (age: 9)

In 2009, we will continue to replace the remaining lighting facilities with energy-saving types. In Sodegaura District, 324 lamps in the plant were replaced with energy-saving lamps, which led to an annual reduction of 130 t in terms of CO_2 emissions.

CO_2 reduction by replacement of transformers

In Sodegaura District, large quantities of electric power are used for testing large compressors, which are one of the major product lines. The conventional transformers used in electrical systems showed significant power losses and extra power was consumed. To reduce the power losses and cut down on CO_2 emissions, systematic replacement of transformers with the latest products has been taking place and 8 of the 82 transformers were replaced in 2008. The replacements have achieved a power loss reduction of 60 percent as compared with the conventional transformers, or a CO_2 reduction of 40 t.

CO_2 reduction by power saving setting of PCs

Since February 2009, EBARA has been a member of the Climate Savers Computing Initiative (CSCI) to further reduce CO_2 emissions through information devices.
The CSCI is a non-profit organization founded in 2007 with the participation of general consumers, corporations and environmental groups with high ecological awareness, and is aimed at promoting the development, introduction and use of advanced technologies capable of realizing reduced power consumption of computers. We intend to make thorough efforts to reduce the power consumption of personal computers by taking part in the CSCI and are trying to achieve reduction of 120,000 kWh/year, or 43 t as CO_2 emissions conversion, with the 2,500 personal computers we own.

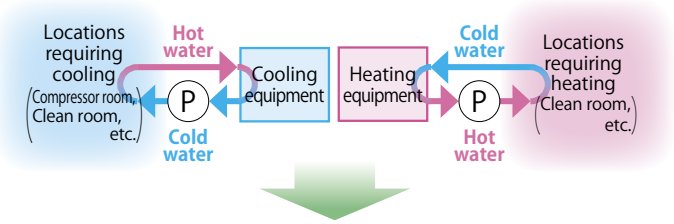
climate savers

CSCI logo

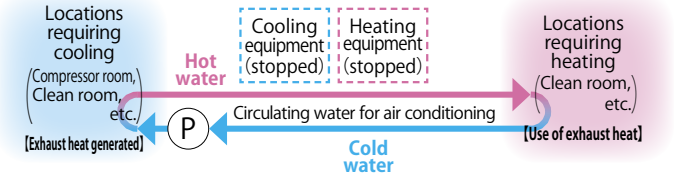
CO_2 reduction by improvement of air conditioning facilities

Ebara Kyushu Co., Ltd. manufactures equipment for the semiconductor industry in a large clean room. To maintain a comfortable work environment, a combination of cooling and heating facilities must be used 24 hours a day even during winter, and the energy required accounted for over 50 percent of the energy consumption of the entire plant. To reduce this energy consumption in winter, we have worked on various improvement activities and the exhaust heat absorption and conversion system, which applies circulating water for air conditioning that is circulated in the plant, had a particularly significant effect. In the past, independent pieces of heating equipment were used for the clean room, which requires heating, and cooling equipment was used for a compressor room or clean room for assembly, which generate exhaust heat, for cooling the exhaust heat. With the present method, the exhaust heat in the compressor room or clean room for assembly was transferred to another place by using the circulating water for air conditioning, which was directly used for heating. This has eliminated the need for running both cooling and heating equipment in winter and the power consumption for cooling and heating between November 2008 and March 2009 showed a reduction of 50 percent from the same period in 2007, or 49 t as CO_2 emissions conversion. This improvement has led to a maintained heat balance in the clean room during winter and a favorable work environment is ensured.

Concept of cooling and heating in winter in the past



Concept of cooling and heating after improvement



P :Pump