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KURITA GROUP ENVIRONMENTAL REPORT 2010

For the Year Ended March 31, 2010



“Evolution and Progress” in the Kurita Group’s Environmental Improvement Activities

Regarding the important measures to be taken to foster the Kurita Group’s environmental improvement activities, Katsuhiko Kokubu, a professor at Kobe University’s Graduate School of Business Administration and an expert in environmentally sustainable management, talked with President Hiroshi Saito of Kurita Water Industries Ltd.

Making Environmental Protection Compatible with Business Management

Saito: The Kurita Group carries out environmental improvement activities based on the following three aspects: “societal needs,” “customer needs,” and “internal change.” Regarding the first, we develop new products and technologies to help society solve water- and environment-related problems; in the second, we propose and provide environmental improvements to customers, and in the third, we strive to reduce our own environmental impact. We started these activities in 2005, and the concept of “environmentally sustainable management” has already taken root in our Group. Going forward, we must increase the effectiveness of our environmental improvement activities.

Kokubu: An increasing number of companies are considering introducing material flow cost accounting (MFCA) to increase the effectiveness of their environmental activities. In general, when companies

manufacture products, they try to minimize the cost of purchasing materials and generate the maximum possible value by processing the purchased materials into products. This is cost management based on economics. In MFCA, the environmental aspects of

manufacturing processes are also considered. In this cost accounting method, both the cost and quantity of materials are managed to make most effective use of them as resources. This method allows companies to identify the long-ignored cost of waste, and so they will be encouraged to take measures to reduce waste and increase their resource productivity.

Saito: I believe we can make even more effective environmental improvement proposals to customers by combining the concept of MFCA with our environmental improvement activities for customers. For example, with regard to wastewater from manufacturing processes, we can identify the loss of materials at our customers by calculating the amount of valuable substances and water that the customers could have recovered from wastewater for reuse. We can then show them the cost of recovering such resources and the resulting savings by comparison. Showing such numbers makes our proposals more persuasive to customers.

Kokubu: Companies can adopt MFCA throughout their industry and value chain to systematically engage suppliers and consumers in reducing their environmental impact, and thus effectively reduce the environmental impact of society at large.

Saito: Our customers are mostly private-sector companies which have different problems and so we currently provide different environmental improvement activities to individual customers. But now we can expand our individual activities to their entire industry, which will reduce environmental impacts across their value chain.



Katsuhiko Kokubu
Professor at Graduate School
of Business Administration
Kobe University

Hiroshi Saito
President
Kurita Water Industries Ltd.

“Evolution and Progress”

Kokubu: In Japan, measures to combat climate change such as reducing CO₂ emissions are attracting most attention among environmental problems. Japanese companies have long tried to save energy and their energy conservation technologies are now world-class. But this actually means it is now difficult for individual Japanese companies to achieve further reductions on their own.

Saito: So far companies have individually developed energy conservation measures, but in the future companies and industries will jointly draw up improvement measures from new viewpoints. Moreover, Japanese companies will be increasingly expected to contribute to energy conservation not only in Japan but also in other growing countries such as China. These social trends offer great opportunities for us, but we will further need to act through inter-organizational cooperation and across the Group to fully meet customers’ diverse needs.

Kokubu: Even if companies jointly create new environmental improvement measures, they will not be able to implement them unless they have the necessary technologies. I hope that the Kurita Group will work to improve the environment from the aspects of “societal needs” and “customer needs,” and thus eventually help improve the environment for society at large.



Saito: We have a wealth of expertise and experience in the fields of water and the environment. To meet societal needs, every employee must be fully committed to helping customers solve environmental issues. Based on this understanding and the new ideas gained today, we will continue to innovate our environmental improvement activities.

(Interviewed in July 2010)

Approach to Environmental Improvement Activities

We are taking action to create a sustainable society in line with the Basic Environmental Improvement Policy, which is based on our corporate philosophy.

Corporate Philosophy

Study the properties of water, master them, and we will create an environment in which nature and man are in harmony.

Basic Environmental Improvement Policy

The Kurita Group will conduct business activities based on its corporate philosophy and will endeavor to solve water and environmental issues with the aim of making broad contributions to society.

Profile

The Kurita Group is composed of the parent company, Kurita Water Industries Ltd., its 41 subsidiaries and one affiliate. The Group's business is divided into two main categories: the water treatment chemicals and the water treatment facilities, in which we manufacture and sell water treatment chemicals and facilities respectively, and provide maintenance services.

We have long been contributing to the development of industry and society as a leading company in the field of water treatment based on our corporate philosophy, "Study the properties of water, master them, and we will create an environment in which nature and man are in harmony." In the 21st century, which is sometimes called the "century for the environment," we are committed to providing new values through water management, thereby helping to create a sustainable society.

Corporate Data

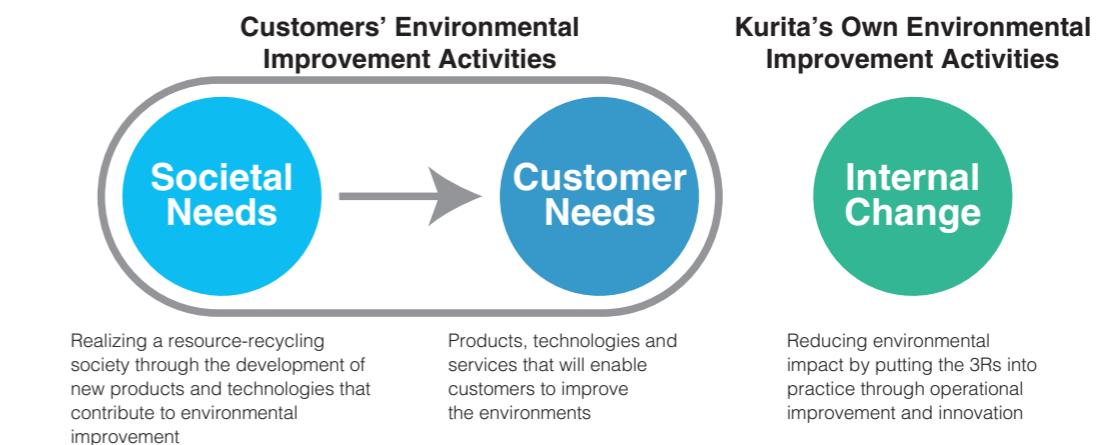
Company name:	Kurita Water Industries Ltd.
Address:	4-7, Nishi-Shinjuku 3-chome, Shinjuku-ku, Tokyo 160-8383, Japan
Paid-in capital:	¥13,450,751,434
Representative (President):	Hiroshi Saito
Date of establishment:	July 13, 1949
Fiscal year-end:	March 31
Number of employees:	1,491 (parent company); 4,445 (on a consolidated basis) (As of March 31, 2010)

Fostering Environmental Improvement Activities from Three Aspects

The Kurita Group is continuing to develop and solve water- and environment-related problems by conducting environmental improvement activities from the three aspects of "societal needs," "customer needs," and "internal change" based on its corporate philosophy.

Activity Guidelines

- 1. We will contribute to the realization of a resource-recycling society by developing new products and technologies conducive to environmental improvement.**
- 2. We will work with customers to improve the environment by providing products, technologies, and services that improve productivity, reduce environmental impact, and offer innovative energy solutions.**
- 3. In conducting business activities, we will reduce environmental impact by daily practicing the three Rs (Reduce, Reuse, Recycle) through operational improvement and innovation.**



Editorial Policy

We have published this report to help our stakeholders understand the Kurita Group's environmental improvement activities. In the report, we disclose examples and results of our activities in line with our three-fold approach of "societal needs," "customer needs" and "internal change" and based on our Basic Environmental Improvement Policy. In creating this report, we referred to the Environmental Reporting Guidelines 2007 of the Japanese Ministry of the Environment.

All of the product names listed in this report are registered trademarks or trademarks of Kurita or other companies.

Organizations covered: Kurita Water Industries Ltd. and other domestic Kurita Group companies
Period covered: Fiscal 2010 (April 1, 2009 to March 31, 2010)
The report also mentions some policies and targets set for April 2010 onwards.

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Initiatives in the Aspect of “Societal Needs”

We are committed to creating new products and technologies that help solve problems related to water and the environment.

Fostering R&D on the Three Themes of Improvement of Productivity, Reduction of Environmental Impact, and Creation of New Energy

Regarding “societal needs,” we are creating new products and services that fundamentally help solve social environmental problems. We identify the results achieved in the aspect of “societal needs” in terms of the number of developed technologies and products and environmental benefits to customers.

*See page 09 for “environmental benefits to customers.”

Item	Results in fiscal 2010	
		16
Environmental benefits to customers through new products	CO ₂	1,194 t
	Waste	14,910 t
	Substances of concern	1,532 t
	Water pollutants	1,402,000 m ³

Introduction of Representative New Products and Technologies

NT Hybrid Treatment System to Ensure Optimal Operation for Energy Conservation

Factories, various buildings and commercial facilities use freezers to produce cooling water for air conditioning and manufacturing equipment. If the heat exchanger of a freezer is stained and the heat exchange efficiency drops, the operational load on the freezer will rise and increase energy consumption.

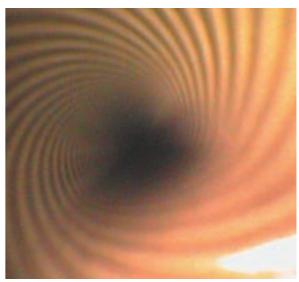
To address this problem, Kurita has developed the NT Hybrid Treatment System by combining a slime control agent, control unit and monitoring equipment to prevent heat exchangers from becoming stained with slime and losing energy efficiency. The slime control agent used in this system has the following feature: its effective substances which are lost as a result of sterilizing or removing bacteria floating in the cooling water and slime attached to the heat exchanger, can be recovered by adding an oxidizing agent. The control unit constantly

controls the concentrations of the effective substances to help prevent the heat exchanger from becoming stained.

The system has already been adopted by a number of customers and has worked well, as expected.



▲ Inside of a heat exchanger without the Hybrid Treatment System



▲ Inside of a heat exchanger with the System

Electrolyzed Sulfuric Acid Generator Green Sulfaced KD™ Reduces Chemical Usage

In the semiconductor resist removal process, a mixed solution of sulfuric acid and hydrogen peroxide was conventionally used as a remover, but semiconductor factories were required to reduce their use of these chemicals to reduce their environmental impact.

In response, Kurita developed a technology to produce persulfuric acid by electrolyzing sulfuric acid and to use this oxidative acid for resist removal. The persulfuric acid produced by Green Sulfaced KD™ has a very high oxidizing power and eliminates the need to use hydrogen peroxide for resist removal. Moreover, after being used for removal persulfuric acid can be reused as sulfuric acid, so sulfuric acid consumption is reduced to about one-tenth of the amount used in conventional resist removal.

The technology has already been introduced by semiconductor makers and is working as effectively as expected.



▲ Demonstration machine for Green Sulfaced KD™

System to Efficiently Treat Wastewater Containing High Concentrations of Selenium

At coal-fired and coal gasification power plants, selenium-containing wastewater is generated in the gas treatment process, but selenium is regulated under the Japanese Water Pollution Prevention Act. To comply with this law, plants are required to reduce the amount of selenium contained in wastewater to below the regulatory standard (0.1 mg/l). Previously, selenium contained in wastewater was generally returned, coagulated and precipitated and removed as sludge, but this required a lot of chemicals and produced a large amount of sludge.

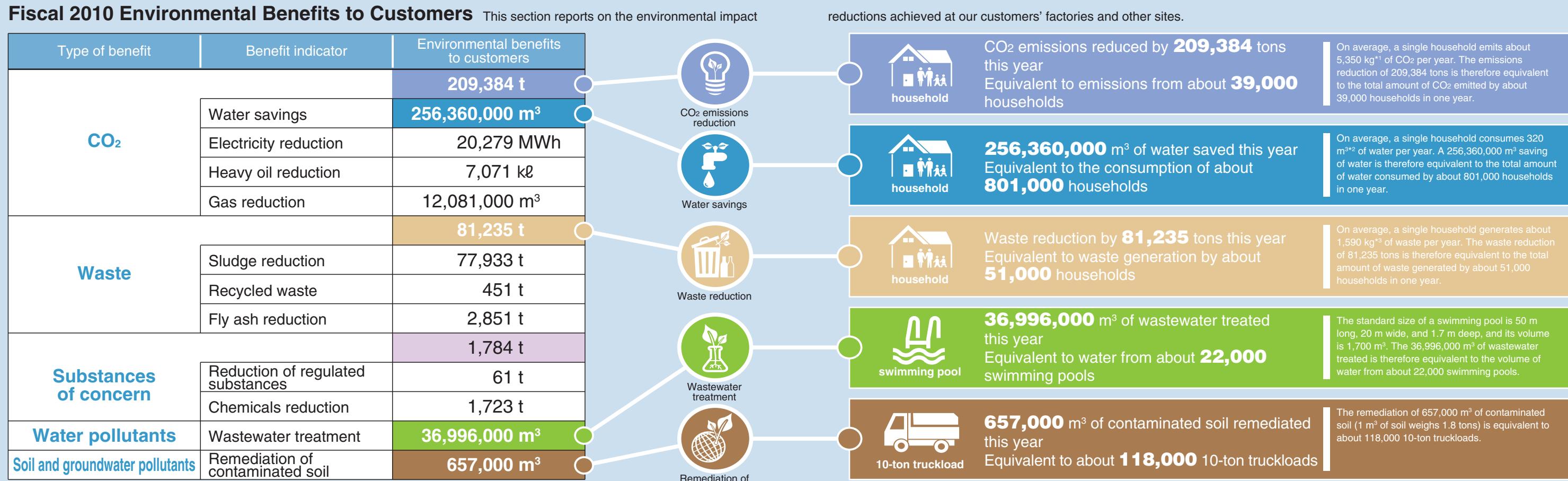
In response, Kurita developed a system to efficiently treat wastewater containing high concentrations of selenium by using a powerful composite metal reducing agent. This system allows users to reduce the use of chemicals by about 20% and the generation of sludge by about 30%.



▲ Demonstration equipment for selenium-containing wastewater treatment system

Initiatives in the Aspect of “Customer Needs”

Fiscal 2010 Environmental Benefits to Customers



*1. The results shown above include the environmental benefits to customers regarding "societal needs."

*2. CO₂ conversion factors: 0.381 kg-CO₂/kWh for electricity; 0.58 kg-CO₂/m³ for tap water (industrial water); 2.8 kg-CO₂/ℓ for class-A heavy oil; 2.1 kg-CO₂/Nm³ for gas (city gas)

*1. Data on greenhouse gas emissions in Japan from April 1, 1990 to March 31, 2008 announced by the Greenhouse Gas Inventory Office of Japan on April 30, 2009 *2. 2006 survey on water utilization in daily life conducted by the Bureau of Waterworks, Tokyo Metropolitan Government *3. Annual Report on the Environment and the Sound Material-Cycle Society in Japan 2007, released by the Japanese Ministry of the Environment on June 6, 2007

The Kurita Group's Products, Technologies and Services

We propose and provide products,

technologies, and services that support customers to improve productivity, reduce their environmental impact.

Water Treatment Chemicals

We manufacture and sell water treatment chemicals, and provide maintenance services.

Boiler water treatment chemicals	Water and energy conservation by maintaining and improving boiler heat efficiency	
Cooling water treatment chemicals	Water and energy conservation by maintaining and improving the operational efficiency of equipment	
Process treatment chemicals	Water and energy conservation by raising the productivity of manufacturing processes	
Wastewater treatment chemicals	Reduction of sludge generated in the wastewater treatment process	

Water Treatment Facilities

We manufacture and sell water treatment facilities, and provide maintenance services, outsourcing service, ultrapure water supply services.

Water treatment systems	Energy conservation through higher performance of water production systems	
Wastewater treatment systems	Improvement of water quality by stabilizing wastewater Reduction and recycling of sludge generated in the wastewater treatment processes	
Wastewater reclamation systems	Clean/industrial water savings through reuse of wastewater	
Soil and groundwater remediation	Provision of an integrated solution from surveys on soil and groundwater contamination through to remediation	

Initiatives in the Aspect of “Customer Needs”: Environmental Improvement Examples

Making Improvement Proposals That Help Customers Solve Problems

We propose and provide products, technologies and services that support customers to improve productivity, reduce their environmental impact and create new energy, thus help them improve the environment at their factories and other sites through our business activities.

We calculate the environmental impact reductions that customers have achieved by adopting our improvement proposals as “environmental benefits to customers,” and use them as indicators for our achievements regarding “customer needs.” We evaluate the results of our initiatives in “customer needs” based on this unique indicator and reflect the results in our activities for the following fiscal year. The environmental benefits to customers are calculated not based on actual results but on estimates (“deemed effect”). Specifically, based on the environmental impact reductions that we have estimated in our specifications and proposals submitted to customers, we calculate the annual difference between the amounts of the customer’s environmental impact before and after adopting our proposal.

Examples of Initiatives That Brought Environmental Benefits to Customers’ Factories and Other Sites

Reducing CO₂ Emissions by 8 Tons by Recovering Blow Water Released from the Cooling Tower

Summit Mihama Power Corporation, Chiba Minato Power Plant

Type of benefit	Benefit indicator	Environmental benefits to customers
CO ₂	Water savings	8 tons*

*Recovery of blow water released from the cooling tower during Aug. 2009 to March 2010



Summit Mihama Power’s Chiba Minato Power Plant distributes electricity to surrounding areas and is committed to supplying energy in a safe and stable manner while reducing its environmental impact. The plant decided to reduce its water use by adjusting equipment operation and management methods, and succeeded in reducing water consumption by about 30%. Not complacent with the result, however, the plant began searching for a new way to reduce usage.

In response, Kurita Chemicals Kanto proposed that the plant should recover blow water released from the cooling tower, desalinate it using membrane equipment, and reuse it to produce

ultrapure water for boilers. By following our suggestion to reuse the blow water, the plant achieved a water saving of 14,025 m³. Moreover, and reducing CO₂ emissions by 8 tons by using desalinated water, the load imposed on the ultrapure water production system has also been decreased, thus decreasing the use of chemicals.

Customer’s Voice

We adopted the proposal to help save water and also because the quality of recovered water would be very good. The industrial water used at our factory tends to contain more organic matter in summer than in other seasons, but it cannot be removed by the existing ultrapure water production system, as a result, boilers need to blow off water frequently. By using the recovered water to produce ultrapure water, we could also reduce blow water from the boilers. In the future, I expect that the recovered water will be further improved to the quality to be directly used for the boilers.

We could focus on our power generation business by depending on Kurita for all water treatment-related matters. I expect that the proposal we’ve adopted at our plant will be introduced across the Summit Energy Group to reduce the overall environmental impact.



Hideki Takano
Director of the Chiba Minato Power Plant

Reducing CO₂ Emissions by 165 Tons per Year by Reducing Scales

Aeon Mall Co., Ltd., Aeon Mall Yamato Koriyama

Type of benefit	Benefit indicator	Environmental benefits to customers
CO ₂	Water savings	165 tons/year 285,000 m ³



▲ Use of a water treatment chemical at the facilities

introduced a range of devices such as a heat pump system to reduce its environmental impact. The mall, however, was unable

Aeon Mall Co., Ltd., which operates shopping malls across Japan, is committed to minimizing the environmental impacts of its shopping facilities, including Aeon Mall Yamato Koriyama.

Accordingly, the shopping mall has

to encourage people to reuse tap water, because the tap water supplied in Yamato Koriyama City contains high concentrations of silica and would cause scaling if used as cooling water.

In response, Kurita’s Chemicals Division proposed an optimum water treatment system to the mall. Specifically, the division suggested that the customer should use a water treatment chemical to prevent scaling even in water containing high concentrations of silica. The mall adopted this proposal and can now reuse tap water as cooling water, saving 285,000 m³ of water per year, and reducing CO₂ emissions by 165 tons per year.

Customer’s Voice

By using the optimum water treatment system suggested by Kurita, we have reduced the amount of water needed to be added to cooling water by 86%, which is a huge saving. Also by reducing silica scale, the heat exchanger of the freezer for air conditioning can now be operated efficiently and consistently, which reduces waste electricity. We are always seeking ways to reduce environmental impact, and I hope that Kurita will continue to propose practical water and energy-saving measures.

Tomohiro Azuma
Operation Manager

Reducing CO₂ Emissions by 294 Tons per Year by Using Waste Heat at the Plant

MTEX Matsumura Corporation Obanazawa Plant

Type of benefit	Benefit indicator	Environmental benefits to customers
CO ₂	Heavy oil reduction	294 tons/year 105 kJ/year



The Obanazawa Plant of MTEX Matsumura is engaged in semiconductor assembly processes. The plant is striving to reduce CO₂ emissions and achieve zero emissions under its medium-term environmental plan, and is committed to continuously implementing environmental impact reduction measures.

Kurita’s Facilities Division examined measures to help the plant conserve energy by using waste heat. After studying available heat sources, the division suggested that the plant use

waste heat from the compressor cooling water as a heat source for water supplied to ultrapure water production equipment. As a result, the plant reduced the use of heating steam and hence the amount of boiler fuel, cutting CO₂ emissions by 294 tons per year.

Customer’s Voice

After introducing the equipment to recover heat from cooling water, we could quickly cut the amount of fuel used for heating. The benefits were larger than expected and we are satisfied with the result. Now, we are rolling out this equipment to other systems at our factory and have high expectations.

Our plant is committed to reducing the use of water for semiconductor cleaning in addition to reducing energy usage. We hope that Kurita will also make proposals to save water, including measures to recover and reuse wastewater.



Katsuya Kondo
Facilities Team,
Equipment Management Section,
Semiconductor Manufacturing Dept.
Hiroto Kajikawa
Manager of the Equipment Management Section,
Semiconductor Manufacturing Dept.

Initiatives in the Aspect of “Customer Needs”: Environmental Improvement Examples

Reducing CO₂ Emissions by 256 Tons a Year by Cutting Energy Loss from the Freezer

Shin Nikkei Hokuriku Co., Ltd., Takaoka Factory

Type of benefit	Benefit indicator	Environmental benefits to customers
CO ₂		256 tons/year
	Electricity reduction	673,000 kWh/year



▲ Cleaner cooling tower thanks to water treatment

In order to conserve energy further, the factory realized it needed to take measures for facilities other than production equipment.

In response, Kurita Chemicals Hokuriku suggested the

factory use water treatment chemicals to prevent scaling and suppress slime, thus optimizing the treatment of cooling water, preventing the freezer's heat exchanger from becoming contaminated, and maximizing the heat exchange efficiency.

The factory accepted the proposal and was able to cut energy losses from the freezer and reduce its CO₂ emissions by 256 tons per year.

Customer's Voice

We received the proposal when we were examining new measures to save energy across the factory. The resulting energy conservation has been better than expected, and also we no longer need to clean the heat exchanger every month. We now rely on Kurita Chemicals Hokuriku regarding water treatment for the boiler as well as for the freezer. We want the company to actively suggest measures that have been successful at other factories as well as new technologies to help us keep saving energy.



Hirotaka Matsubara
Equipment Team,
Coating Section

Kinji Arisawa
Director, General
Manager of the
Takaoka Factory

Reducing Waste by 730 Tons a Year by Introducing Sludge Reduction Equipment

JFE Steel Corp., East Japan Works (Chiba)

Type of benefit	Benefit indicator	Environmental benefits to customers
Waste	Sludge reduction	730 tons/year



▲ Wastewater treatment facilities

The East Japan Works of JFE Steel is an integrated steel plant, and has been carrying out measures to reduce the emissions of nitrogen, which is a cause of eutrophication.

Kurita's Facilities Division

made a wastewater treatment proposal involving technologies to reduce the nitrogen emissions and sludge produced during wastewater treatment. After adopting the plan, the plant began removing metal from wastewater, treating nitrogen by using

microorganisms to decrease its concentrations in the water and suppressing the generation of sludge by ozone, and thus succeeded in reducing the generation of sludge from water treatment by 730 tons per year.

Customer's Voice

The results of water quality improvement were far better than expected, which was our main goal, and we are very grateful to Kurita. This case has attracted much attention throughout the company, and other facilities are now considering doing the same.

Like Kurita, the proposal was innovative. (We see Kurita as an innovative company as shown in this proposal, and) expect Kurita will continue to develop innovative technologies and actively suggest ways to help us solve environmental problems.

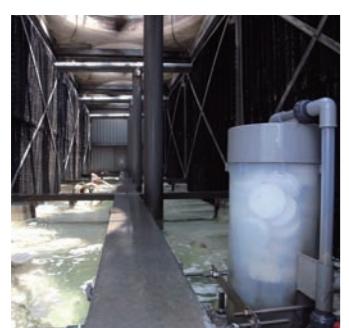


Yasuhiro Katsuki
Chief of the Energy
Technology Office
(manager),
(Chiba) Energy Dept.
Yoshiki Fujii
General Manager
(Chiba) Energy Dept.
Shuji Yoshida
Energy Office,
(Chiba) Energy Dept.

Reducing CO₂ Emissions by 125 Tons a Year by Cutting Energy Losses from Cooling Water Equipment

Fujitsu Facilities Engineering Ltd., Mie Plant

Type of benefit	Benefit indicator	Environmental benefits to customers
CO ₂		125 tons/year
	Electricity reduction	330,000 kWh/year



▲ Inside of the cooling tower after carrying out the proposal. The equipment in the foreground is used to add water treatment chemicals

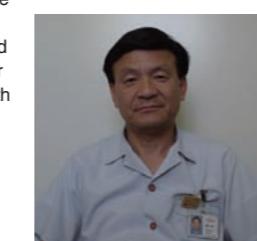
exchange efficiency of the freezer tended to decrease due to slime accumulating in the cooling water equipment.

In response, Kurita's Chemicals Division inspected the site to identify the causes of the slime and based on the results, suggested that the plant should control slime by automatically injecting water treatment chemicals while monitoring the effects. As a result, the plant reduced its energy losses and decreased CO₂ emissions by 125 tons per year.

Customer's Voice

We had a problem of slime build-up even though we were using sterilizing agents for the cooling water system, and asked Kurita to help us solve the problem. The company made a great suggestion after analyzing the causes; we went ahead with it, eliminated the slime problem, and even reduced our electricity usage. I am highly satisfied with the result.

In the future, I would like to take additional measures for other cooling equipment at our plant and also other plants of our company. At that time, I expect Kurita again to use its know-how as a leading water treatment company.



Kenichi Sasahara
General Manager of the Mie Plant

Reducing Waste by 300 Tons a Year by Effectively Using Existing Dehydration Equipment

Toyama Murata Manufacturing Co., Ltd.

Type of benefit	Benefit indicator	Environmental benefits to customers
Waste	Sludge reduction	300 tons/year



▲ Sludge transportation equipment

and measures to reduce the sludge were needed.

To meet this requirement, Kurita's Facilities Division

worked with the customer to examine ways of reducing the sludge by using the customer's existing dehydration equipment. Using its expertise, the division selected a pump suitable for high-density sludge containing high concentrations of metals, installed transportation equipment adopting the pump, and improved the wastewater treatment facilities to enable the existing dehydration equipment to dehydrate the sludge carried to it by the transportation equipment. As a result, the customer reduced sludge waste by 300 tons per year.

Customer's Voice

We had been considering using our existing dehydration equipment for sludge reduction as one possibility, and finally achieved it last year. We are very pleased with how much waste has been cut.

Sludge from wastewater treatment facilities is mostly generated by using wastewater treatment chemicals, and I expect Kurita to propose innovative technologies and products, including equipment that treats sludge only with filters without using any chemicals.

Noriaki Osawa
Team Leader,
Environmental Management Section,
Management Dept.

Initiatives in the Aspect of “Customer Needs”: Environmental Improvement Examples

Reducing Waste by 896 Tons a Year by Improving the Wastewater Treatment Facilities

Hitachi Cable, Ltd., Takasago Works

Type of benefit	Benefit indicator	Environmental benefits to customers
Waste	Sludge reduction	896 tons/year



The Takasago Works of Hitachi Cable manufactures cables and compound semiconductors. The plant is committed to reducing the environmental impact of manufacturing, and wanted to solve the problem of wastewater from the semiconductor crystal cutting process: all of the wastewater, which contained oil and cutting dust, was discarded, making it difficult to reduce the plant's environmental impact.

In response, Kurita's Facilities Division investigated ways to

effectively use existing wastewater treatment facilities, and proposed improving the facilities by installing an oil separation device to separate oil from the wastewater as a pre-process, followed by injecting a heavy metal-collecting agent into the wastewater to separate out the sludge containing crystal cutting dust. As a result, the plant reduced waste generation by 896 tons a year.

Customer's Voice

The results are better than expected and highly appreciated by our company, so we are highly satisfied.

The well water used by our plant is very hard water, causing difficulties in operating and managing the pure water production equipment. We hope Kurita, as a water expert, will continue making effective proposals, including ways to increase cost effectiveness.



Koichi Mashiko
Service And Support
Sec. Production Dept.
Compound
Semiconductor
Production Div.
Semiconductor Materials & Packaging Group

Takashi Suzuki
Manager of the Second
Chemicals Section,
Chemicals Div.
Hitachi Cable Mec-Tech, Ltd.

▲ Oil separation equipment

wastewater at its Hashima Factory caused by the expansion of its business. In expanding the facilities, however, the factory had to meet the voluntary criteria set independently by the company in anticipation of tighter regulations on the water quality of Ise Bay, to which its wastewater was discharged. Moreover, there was

Treating 365,000 m³ of Wastewater a Year by Using Highly Efficient Wastewater Treatment Facilities

TOKAI Corp., Hashima Factory

Type of benefit	Benefit indicator	Environmental benefits to customers
Water pollutants	Wastewater treatment	365,000 m ³ /year



▲ Expanded wastewater treatment facilities

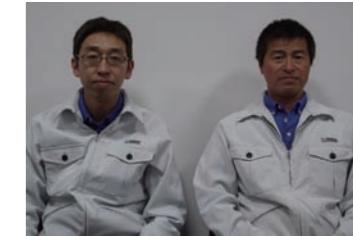
TOKAI is engaged in the linen supply business and Leasekin business. The company needed to expand its wastewater treatment facilities to respond to an increase in the volume of

wastewater at its Hashima Factory caused by the expansion of its business. In expanding the facilities, however, the factory had to meet the voluntary criteria set independently by the company in anticipation of tighter regulations on the water quality of Ise Bay, to which its wastewater was discharged. Moreover, there was

Customer's Voice

Since the wastewater treatment facilities started full-scale operation, the quality of the treated water has been stable and has met the criteria. The facilities are easier to operate and manage than the old ones and we can check them securely.

In the future, we hope Kurita will continue to suggest ways to improve both equipment and procedures, including using more energy-efficient pumps and optimizing the machine operation methods.



Shinya Aoi
Manager, Production
Engineering Group,
Production Dept.
Production Div.

Yoshitaka Ohashi
Manager, Production
Engineering Group,
Production Dept.
Production Div.

Reducing the Use of Chemicals by 739 Tons and Waste by 319 Tons a Year by Using Organic Coagulant

Nihon Canpack Ltd., Akagi Factory

Type of benefit	Benefit indicator	Environmental benefits to customers
Substances of concern	Reduction in the use of chemicals	739 tons/year
Waste	Sludge reduction	319 tons/year



Nihon Canpack mixes the ingredients of coffee, fruit juice, tea, and other beverages into final products, packs them and transports the packages in an integrated manner. The company is committed to reducing CO₂ emissions, waste, and chemicals at all of its four factories in Gunma Prefecture. As one of these, the Akagi Factory wanted to reduce the inorganic coagulant used to remove materials floating in wastewater, because of the sludge produced.

In response, Kurita's Chemicals Division analyzed the properties of the wastewater and proposed a unique organic coagulant to boost the coagulation effect of the inorganic coagulant. As a result, the factory reduced the use of inorganic coagulant by 300 tons a year, pH adjuster by 439 tons a year, and also the sludge from using inorganic coagulant by 319 tons a year.

Customer's Voice

I was surprised by the effect of the proposal, which greatly reduced the use of both the inorganic coagulant and pH adjuster. Our factory is pleased with the results and also with the introduction of equipment to dissolve and supply organic coagulant, which has eliminated the problem of insufficient dissolution.

We hope Kurita will continue to make useful suggestions. We are now asking the company to propose ways to efficiently dehydrate sludge to reduce waste, and expect to receive a number of new ideas for environmental improvement.



Kaoru Sunaga
Section Chief
General Affairs Section
Akagi Factory
Engineering & Production
Division

Examples of Diverse Environmental Benefits for Customers

The Kurita Group seeks to deliver environmental benefits to a range of customers in different industries. The following table shows some of the benefits we have provided.

Description	Type of benefit	Benefit indicator	Environmental benefits to customers
Company A (oil refinery): Achieved water savings by optimizing the treatment of cooling water with water treatment chemicals to increase the concentrations of cooling water and reduce the volume of blow water	CO ₂	Water savings	119 tons/year 206,000 m ³ /year
Company B (oil refinery): Reduced the use of fuel for heating by adding a contamination-preventing agent to crude oil in the refining process, and preventing a drop in temperature at the outlet of the heat exchanger of the prewarming system	CO ₂	Heavy oil reduction	8,680 tons/year 3,100 kL/year
Company C (automobile factory): Reduced the use of electricity by optimizing the treatment of cooling water with water treatment chemicals to prevent the generation of slime and its sticking to the freezer's heat exchanger, thereby minimizing energy loss	CO ₂	Electricity reduction	38 tons/year 100,000 kWh/year
Company D (printing factory): Reduced the use of electricity by optimizing the treatment of compressor cooling water with water treatment chemicals to prevent the heat exchanger from becoming contaminated, thereby minimizing energy loss	CO ₂	Electricity reduction	12 tons/year 31,000 kWh/year
Company E (tire factory): Reduced the generation of waste by adding a device to increase the density of sludge and a compressing dehydration device to the wastewater treatment facilities	Waste	Sludge reduction	47 tons/year
Company F (electric machinery factory): Removed soil and groundwater pollutants by identifying the range and depth of existing incineration ashes through boring surveys and by transporting them to external disposal facilities	Soil and groundwater pollutants	Remediation of contaminated soil	72 m ³

Initiatives in the Aspect of “Internal Change”

In this section, we review some of the initiatives taken within the Kurita Group to reduce its own CO₂ emissions and waste and to appropriately manage chemical substances and waste.

Reduction of CO₂ Emissions and Waste

Our CO₂ emissions increased by 16.9% in spite of the target of reducing emissions per ¥1 million sales by 1% relative to fiscal 2009, and so we could not achieve the target.

However, we achieved the target of reducing the generation of waste below the fiscal 2009 level, with a reduction of 3.5%.

Aspect of “Internal Change”		Fiscal 2010		Fiscal 2011
Item		Target	Result	Target
CO ₂	Emissions per ¥1 million sales	1% reduction relative to fiscal 2009	16.9% increase	13.5% reduction relative to fiscal 2010
	Absolute amount	–	23,563 tons	Below the fiscal 2010 level
Waste	Absolute amount	Below the fiscal 2009 level	3.5% reduction	Below the fiscal 2010 level
Management of chemical substances and waste	–	Appropriate management of chemical substances and waste at each site	Noncompliance with the Poisonous and Deleterious Substances Control Law and the Waste Management and Public Cleansing Act: 0	Appropriate management of chemical substances and waste at each site

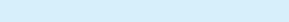
CO₂ emissions

Emissions per ¥1 million sales (kg)



Waste generation

Absolute amount (tons)



Recycling Activities

In fiscal 2010, in order to promote the 3Rs in line with the Basic Environmental Improvement Policy, we implemented new measures in addition to conventional “Reduce” measures. Specifically, we recovered valuable resources from waste to sell or reuse them in an effort to reduce landfill waste, and as a result our recycling rate reached 16.6% in fiscal 2010.

$$\text{*Recycling rate (\%)} = \frac{\text{Waste sold (kg) + Waste recycled (kg)}}{\text{Waste generated (kg)}}$$

Example of Initiatives Taken for Higher Recycling Rates (Kurita Water Industries Yamaguchi Plant)

The Yamaguchi Plant of Kurita Water Industries manufactures standard water treatment facilities and cleans activated carbon and membranes to be used in pure water production systems. Industrial wastes from this plant are mainly end-of-life activated carbon, packaging materials for water treatment machinery (cardboard boxes and wooden pallets) and waste materials (plastics and metal) from the process of manufacturing water treatment facilities.

To raise the recycling rate, it is necessary to recycle these industrial wastes, so the Yamaguchi Plant chose an intermediate waste processing company which can strictly sort and recycle waste. As a result, of the total amount of industrial waste generated at the plant in fiscal 2010 (76.7 tons), 71.9 tons (93.7% of the total) were recycled.



▲ Improving the recycling rate through strict sorting of waste

Enhanced Management of Chemical Substances and Waste

At each site of the Kurita Group, in order to comply with the Poisonous and Deleterious Substances Control Act and the Waste Management and Public Cleansing Act and with the related in-house rules, facilitators of environmental improvement activities are leading the activities to ensure the appropriate management of chemical substances and waste according to the in-house chemical substances and waste management manuals.

Especially at those sites where chemicals are used each day for technical testing and water quality analysis, employees are taught how to deal with emergencies such as leakage and outflow of chemicals and to ensure safer operations. Moreover, the monitoring team appointed by the Environmental Improvement Promotion Committee has conducted monitoring surveys at 28 sites to check how they were storing and using chemical substances and sorting, storing and disposing of waste. These surveys confirmed that the sites are managing both chemical substances and waste as instructed in the manuals.

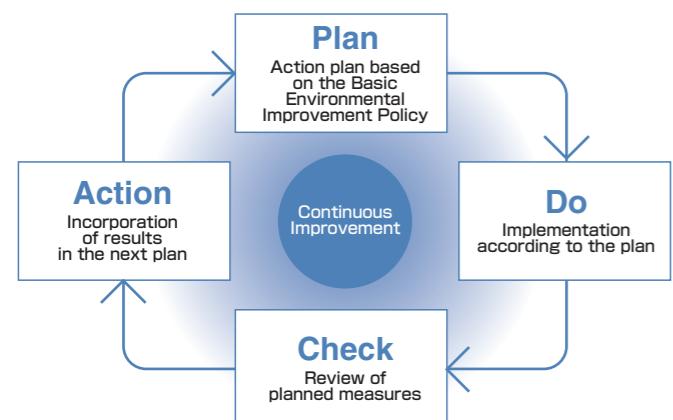


▲ Ensuring the appropriate management of chemical substances by posting a cautionary statement at the entrance of the space where these substances are stored

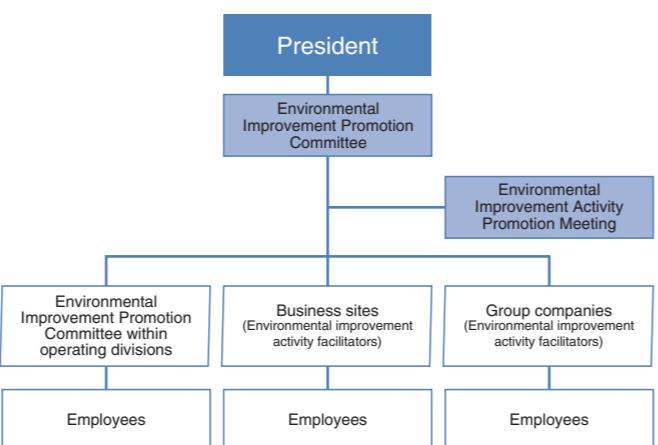
Environmental Management System

We have established the Kurita Group's Environmental Improvement Promotion Committee chaired by the Kurita director responsible for environmental improvement activities. This committee discusses and sets the Group's policies on environmental improvement activities and related issues.

■ PDCA Cycle for Environmental Improvement Activities



■ Organizational System for Promoting Environmental Improvement Activities



Compliance with Environmental Laws and Regulations

The Kurita Group is committed to complying with environmental laws and regulations and regularly checks related information. In fiscal 2010, we received no environment-related fines or penalties, and had no serious incidents that would have great influence on people outside the Group.

■ Major Environmental Laws That Govern the Business Activities of the Kurita Group

- Water Pollution Control Act
- Act on the Rational Use of Energy
- Law Concerning the Promotion of the Measures to Cope with Global Warming
- Sewerage Act
- Noise Regulation Act
- Waste Management and Public Cleansing Act
- Vibration Regulation Act
- Poisonous and Deleterious Substances Control Act
- Air Pollution Control Act
- Fire and Disaster Management Act
- Pollutant Release and Transfer Register (PRTR Act)

Social Contribution Activities

Supporting Surveys, Research and International Exchanges in the Fields of Water and the Environment

In 1997, the Kurita Group established the Kurita Water and Environment Foundation in order to help create and conserve a rich water environment by promoting science and technology. The Foundation became a public interest incorporated foundation in November 2009. Through this Foundation, we provide subsidies for surveys, research projects, and international exchange programs in the scientific field concerning water and the environment. In fiscal 2010, the Foundation selected 51 research projects from among 439 applications and awarded subsidies to selected applicants.

The Foundation has also granted prizes of excellence to a total of five researchers among those who received research grants from the Foundation in the past in recognition of their excellent research results and social contributions in the scientific field concerning water and the environment. The Foundation has also, through the Japan Society on Water Environment, given awards to 11 researchers to motivate young researchers.



▲ Subsidy granting ceremony held for fiscal 2010

Third-Party Opinion

To ensure the disclosure of highly reliable information on a continual basis and to improve the quality of our environmental management, we ask the Institute for Environmental Management and Accounting (IEMA), as a third party, to give us their opinion concerning our environmental activities.



Environmental Management Evaluation Report

To: Kurita Water Industries Ltd.

Outline of the purpose of this report and implemented procedures

As a third party, independent of Kurita Water Industries Ltd., we herein state our opinions with the aim of enhancing the credibility of Kurita Group Environmental Report 2010, through an evaluation of the environmental management efforts described in the report.

To examine how the Kurita Group's environmental management activities were planned and executed, and how environmental performance data resulting from these activities (which serve as a basis for publicly disclosed information) were evaluated and utilized, we interviewed Hiroshi Saito, president of Kurita Water Industries, questioned key persons at the company's head office and visited one of its corporate customers. We also visited the company's Shizuoka Plant to check related documents, ask questions to persons in charge, and check whether the source documentation for publicly disclosed data is being handled systematically in a predefined manner.

Evaluation and comments

The Kurita Group launched its new medium-term plan for environmental improvement activities in fiscal 2010. In the plan, the Group states its commitment to its Basic Environmental Improvement Policy, which is to endeavor to solve water and environmental problems with the aim of making broad contributions to society. At the Group, top executives are constantly teaching employees about the strong linkage between the Group's operations and environmental improvement activities, thereby raising their environmental awareness across the Group.

In fiscal 2010, the Group achieved far greater results than the targets for some environmental items, although it was unable to achieve the targets for some others due to a fall in sales. In fiscal 2010, the Group started to identify its recycling rate to encourage recycling, and we believe that environmental improvement activities are being undertaken effectively throughout the Group. In the future, however, the Group will need to examine the use of indicators that are not easily affected by changes in sales and to devise measures to set numerical targets more precisely. It is also important for the Group to appropriately identify and evaluate the circulation of resources within the Group by using material flow cost accounting (MFCA) and other similar methods.

Within the scope of our basic examination, we found no serious discrepancies with the calculation of environmental performance data.

<Contributing to reducing the environmental impacts of customers>

As in the previous fiscal year, we visited a corporate customer of the Kurita Group to interview the company about the Group's business activities. The customer had adopted a proposal made by Kurita Water Industries on how to effectively use the waste heat from compressor cooling water to heat water for the pure water production system. As a result, the customer reduced its CO₂ emissions substantially and achieved its medium-term environmental plan. The customer was satisfied with the results and is now rolling out the system at its other facilities. The solution provided to the customer represents a social contribution made by the Kurita Group through its business operations and demonstrates the strong linkage between the Group's business and environmental improvement activities. The Group is expected to continue actively making proposals to its customers.

<The Kurita Group's environmental improvement activities>

In fiscal 2010, we visited the Shizuoka Plant, where we interviewed employees in charge about their environmental improvement activities and checked the results. The Shizuoka Plant, where water treatment facilities are manufactured and ion exchange resin and high-performance resin and membrane are refined. The plant is committed to reducing its CO₂ emissions and waste and ensuring the appropriate management of chemical substances. In fiscal 2010, the plant was unable to achieve its CO₂ emission reduction target partially because of an increase in power use due to the start-up of its new facilities, but it achieved all other targets. The progress of its environmental improvement activities was appropriately managed and the environmental management system was working smoothly. In addition, according to its policy to strengthen communication with local communities, the plant was planning to make local contributions by using the strengths of Kurita Water Industries. Moreover, the plant was conducting emergency drills in preparation for a tsunami that might be caused by the Tokai earthquake, and has started business continuity plan (BCP)-related activities. These activities being conducted by the Shizuoka Plant are highly regarded and are expected to bring great results.

July 30, 2010

Institute for Environmental Management and Accounting
Eriko Nishioka (Director/CPA & Certified Public Tax Accountant)
Hiroshi Okada (Senior Researcher/Doctor [in Engineering and Economics] and Engineer)