

# KURITA GROUP ENVIRONMENTAL REPORT 2011

For the Year Ended March 31, 2011



**Kurita Water Industries Ltd.**

Business Process Reengineering Department, Corporate Planning Division

4-7, Nishi-Shinjuku 3-chome, Shinjuku-ku, Tokyo 160-8383, Japan

Tel.: 81 (3) 3347-3248

Fax: 81 (3) 3347-3099

For details of the Kurita Group's environmental initiatives, please visit our website:

<http://www.kurita.co.jp/english/>

# C ontents

- P2 Approach to Environmental Improvement Activities
- P3 Interview with the President
- P5 Initiatives in the Aspect of "Societal Needs"
- P7 Initiatives in the Aspect of "Customer Needs"
- P15 Initiatives in the Aspect of "Internal Change"
- P17 Environmental Management
- P18 Third-Party Opinion

## 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 the three aspects 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 the Kurita Group or other companies.

Organizations covered: Kurita Water Industries Ltd. and other domestic Kurita Group companies  
 Period covered: Fiscal 2011 (April 1, 2010 to March 31, 2011)  
 The report also mentions some policies and targets set for April 2011 onwards.

## Corporate Philosophy

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

## Corporate Vision

**Becoming an Advanced Water and Environmental Management Company**

## Profile

The Kurita Group is composed of the parent company, Kurita Water Industries Ltd., its 40 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 making contributions to society by achieving advanced water management with our latest products, technologies and services to ensure that water of appropriate quality and quantity will always be available, whenever and wherever it is needed.

## Corporate Data

<b>Company name:</b>	Kurita Water Industries Ltd.
<b>Address:</b>	4-7, Nishi-Shinjuku 3-chome, Shinjuku-ku, Tokyo 160-8383, Japan
<b>Paid-in capital:</b>	¥13,450,751,434
<b>Representative (President):</b>	Toshiyuki Nakai
<b>Date of establishment:</b>	July 13, 1949
<b>Fiscal year-end:</b>	March 31
<b>Number of employees:</b>	1,523 (parent company) 4,490 (on a consolidated basis) (As of March 31, 2011)

## 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.

## Basic Environmental Improvement Policy

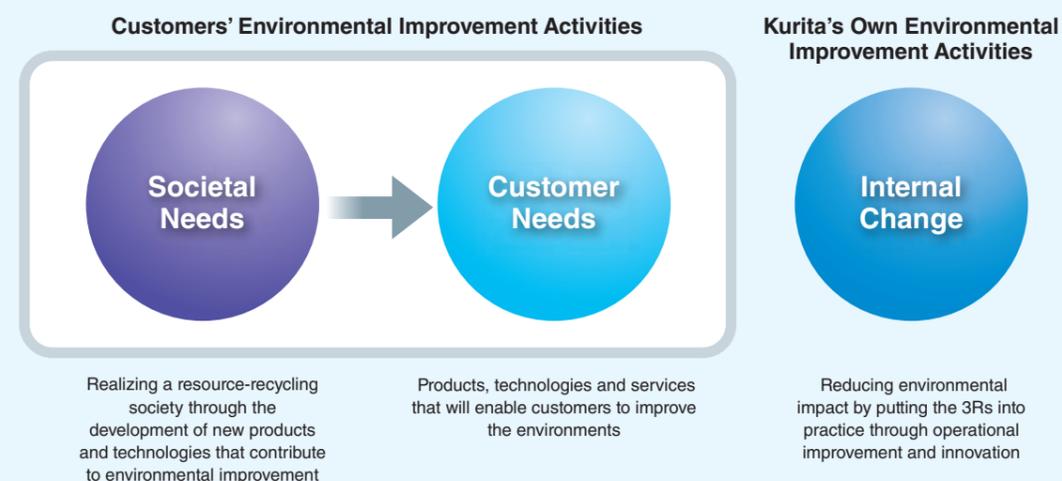
**The Kurita Group will conduct business activities based on its corporate philosophy and will endeavor to solve water and environmental issues with the aim of making broad contributions to society.**

## 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.

## 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.



## Contributing to the Solution of Environmental Problems through Business Operations in the Field of Water and the Environment

The Kurita Group has been conducting business in the field of water and the environment for 62 years since its foundation. Professor Katsuhiko Kokubu of Kobe University's Graduate School of Business Administration, who is an expert in environmentally sustainable management, talked with President Toshiyuki Nakai of Kurita Water Industries Ltd. about the future direction of the Group.



**Katsuhiko Kokubu**  
Professor at Graduate School of Business Administration, Kobe University

**Toshiyuki Nakai**  
President, Kurita Water Industries Ltd.

### Ensuring Business Continuity to Fulfill Our Social Responsibility

**Kokubu:** The Great East Japan Earthquake caused tremendous damage to the Tohoku region mainly and also to Japan's economy. From the viewpoint of CSR, it is essential for companies to ensure business continuity in the event of disasters. What impact did the earthquake have on the Kurita Group's operations?

**Nakai:** Before talking about the Kurita Group, I would like to offer my prayers for the souls of those who lost their lives and express my sympathies for those who lost loved ones in the disaster as well as victims who survived.

Within the Kurita Group, fortunately no one was injured and no serious damage was caused to our facilities. We have long been taking measures to ensure business continuity, regarding it as a priority in our risk management efforts, and based on the experience we had in the mega earthquake, we are reviewing these measures as an issue to be urgently tackled.

**Kokubu:** In ensuring business continuity you need to focus on the supply chain as an important factor. What measures did you implement to restore the supply chain and support your customers?

**Nakai:** Many of our customers suffered serious damage to their manufacturing facilities and equipment, and the entire Kurita Group has been working to support them and help them recover. Specifically, in our water treatment chemicals business, we have been striving to manufacture and deliver our products to customers in a stable manner while in the water treatment facilities business we have been making efforts to restore water treatment facilities at customers' factories, thereby helping them resume operations as early as possible.

Moreover we have donated products such as packaged drinking water to areas afflicted by the earthquake and also provided seawater desalination equipment to help supply water for daily life use to evacuation centers.

**Kokubu:** From the viewpoint of environmentally sustainable management, I think it is very important for companies to contribute to the recovery through their business operations.

**Nakai:** Factories cannot manufacture products without water even if their facilities have been restored. Electricity cannot be generated without water either, because major power generation facilities use steam to drive turbines. The earthquake has made us re-recognize the importance of water, which provides



the basis of the Kurita Group, and also the significance of the social role to be played by the Group as an enterprise conducting business in the field of water and the environment.

### Aiming to Achieve the Corporate Vision, "Becoming an Advanced Water and Environmental Management Company"

**Kokubu:** In your capacity as president, what challenges do you think the Kurita Group should meet in fostering environmentally sustainable management?

**Nakai:** In our environmental improvement activities, we are not only reducing our own environmental impact but also endeavoring to help customers reduce their environmental impact through the development of new products and technologies that will contribute to reducing environmental impact. This is a very unique feature of our activities.

As for our own environmental impact reduction, we have been steadily conducting activities across the Group, but to further support customers' environmental improvement activities, to which we also attribute importance, we need to take global measures while encouraging Group companies to foster relevant measures.

**Kokubu:** It is important for Kurita Water Industries to expand the initiative to Group companies, but it must be difficult to actually foster such activities. You need to devise a good way to achieve this in consideration of the corporate culture and business details of the companies.

**Nakai:** In the water treatment chemicals business, we can apply the same system adopted by Kurita Water Industries also to Group companies, but in some of our business segments it is difficult to quantify the environmental benefits that we can bring to our customers. Nonetheless, most of our products,

technologies, and services do help customers improve the environment, and it is necessary for us to build up a system that allows us to identify the environmental benefits that we can bring to customers for all the projects we propose.

**Kokubu:** What do you plan to do in regard to the global implementation of the initiative?

**Nakai:** We attribute importance to the expansion of our global business in our medium-term management plan. Due to power shortages as a result of the nuclear power plant disaster following the earthquake and tsunami, Japanese companies will likely accelerate the transfer of their factories from Japan to overseas. Accordingly, we must also globalize our measures to support our customers' environmental improvement activities. We must however note that parameters differ by country, including in regard to CO<sub>2</sub> conversion factors used for electricity.

**Kokubu:** Perhaps you need to identify the environmental benefits that you can bring to your customers by country. Throughout the world, however, the need for water purification measures and to reuse water is as great as the need to reduce CO<sub>2</sub> emissions. The Kurita Group has a wealth of technologies and products in the field of water and the environment and is highly committed to developing new products and technologies. By promoting the globalization of the initiative, I want the Kurita Group to tackle the higher target of improving the global environment as a whole, beyond the improvement of its customers' environment.

**Nakai:** I believe that we need to manage water so that water of appropriate quality and quantity is available whenever and wherever it is necessary, which will in turn help solve the global water problem. By implementing the corporate vision, "Becoming an Advanced Water and Environmental Management Company," we will continue to make contributions to society.

(Interviewed in July 2011)



# 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.

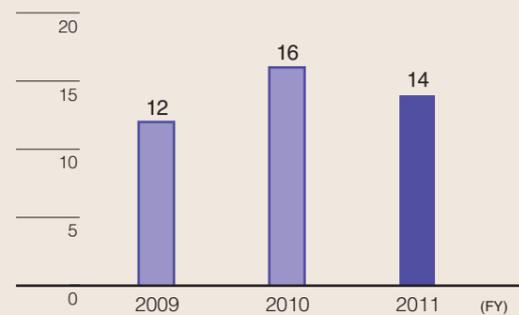
## Fostering R&D on the Three Themes of Improving Productivity, Reducing Environmental Impact, and Offering Innovative Energy Solutions

### Introduction of Representative New Products and Technologies

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.

#### Number of new technologies and products developed to contribute to environmental improvement



#### Environmental benefits brought to customers through new products

Type of benefit	Results in fiscal 2011
CO <sub>2</sub>	2,414 t
Waste	11,324 t
Substances of concern	525 t
Water pollutants	14,952,000 m <sup>3</sup>
Soil and groundwater pollutants	1,000 m <sup>3</sup>

For the year ended March

#### Boiler Water Treatment Chemicals That Help Reduce the Discharge of Water from the Boiler by Preventing the Precipitation of Silica Present in High Concentrations, Thereby Contributing to Energy Conservation

Steam, which is widely used for heating, humidifying and air conditioning purposes both at factories and offices, is generated by heating water by boilers. When water is heated by a boiler, silica contained in it will not evaporate and remain within the boiler. The concentration of the substance in boiler water will therefore gradually increase to form scales on the inside surface of the boiler. This prevents the heat conductivity of the boiler, resulting in energy loss and causing various problems including damage to the boiler itself. To prevent the formation of scales, it is necessary to partially discharge the boiler water and add new water to the boiler, but this increases the use of fuel to heat the newly supplied water. The reduction of the use of fuel poses a challenge to factories and offices.

In response, Kurita Water Industries has developed boiler water treatment chemicals with excellent silica dispersibility, thanks to which the concentration of silica in boiler water can be increased to double the level possible with conventional chemicals. This in turn reduces the amount of boiler water discharged, contributing to a reduction in the use of fuel to heat boiler water.

The product has already been adopted by customers in a range of industries and has worked well as expected.



The inside surface of the boiler is coated with white scales



Clear metal surface which is not coated with scales thanks to the use of the treatment chemicals

#### KCDI®-SP Water Treatment System That Prolongs the Life of Plating Solutions through Selective Separation of Ions

Plating factories have to meet the needs for uniform and thinner plating for electronic components, the quality of which has been increasingly improved. The factories use solutions that contain valuable metals such as copper in the plating process, during which valuable metals contained in the solutions decrease and their ion composition changes. In order to maintain plating quality, solutions need to be replaced with new ones if their ion composition changes, which generates a large amount of waste. The factories needed to solve this economic and environmental problem.

In response, Kurita Water Industries has developed the KCDI®-SP water treatment system to separate ions in plating solutions in a selective manner. By removing unnecessary ions alone from the solutions while leaving the valuable metals required for the plating process, the ion composition can be kept unchanged to ensure stable and uniform plating on a long-term basis. The use of this system eliminates the need to replace solutions, thereby substantially reducing the amount of waste generated in the plating process.

The system has already been adopted by some copper plating factories and has been working well as expected.

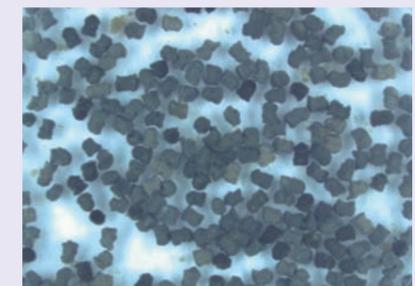


The KCDI®-SP system removes ions in a selective manner

#### Biosaver® TK Applicable Also to Low-Concentration Wastewater

For the treatment of wastewater containing organic matter, microorganisms are generally used. Specifically, depending upon the types of microorganisms used, the aerobic or anaerobic treatment method is adopted. The anaerobic treatment method has great environmental merits compared with aerobic treatment method, because it does not require electricity for aeration and the methane gas generated from the treatment process can be reused while surplus sludge volumes are relatively small. The treatment method, however, has also demerits: the “granule sludge” (1- to 3-mm granules composed of filamentous microorganisms) is used for the treatment, but the conditions for granule sludge cannot be kept in a stable manner for wastewater containing organic matter in low concentrations, and so the treatment method cannot be applied to the treatment of low-concentration wastewater.

In response, Kurita Water Industries has developed the Biosaver® TK, a plastic carrier to which microorganisms are attached. The carrier retains microorganisms at a high level and is suitable for sedimentation, preventing microorganisms from flowing out of the treatment tank. With the use of this carrier, the anaerobic treatment method can therefore be applied also to low-concentration organic wastewater.



Carrier to which microorganisms are attached

# Initiatives in the Aspect of “Customer Needs”

The Kurita Group calculates the environmental impact reductions that customers have achieved by adopting the Kurita Group’s improvement proposals as “environmental benefits to customers.”

## Fiscal 2011 Environmental Benefits to Customers

This section reports on the environmental impact reductions achieved at our customers’ factories and other sites in fiscal year ended March 2011.

Type of benefit	Environmental benefits to customers*1
 <b>CO<sub>2</sub></b>	<p><b>CO<sub>2</sub> emissions reduction**</b></p> <p>Per year <b>119,390 tons</b> Equivalent to emissions from about <b>24,000 households</b></p> <p>On average, a single household emits about 4,850 kg*3 of CO<sub>2</sub> per year. The emissions reduction of 119,390 tons is therefore equivalent to the total amount of CO<sub>2</sub> emitted by about 24,000 households in one year.</p>
	<p><b>Water savings</b></p> <p>Per year <b>39,585,000 m<sup>3</sup></b> Equivalent to the consumption of about <b>131,000 households</b></p> <p>On average, a single household consumes about 300 m<sup>3</sup>*4 of water per year. A 39,585,000 m<sup>3</sup> saving of water is therefore equivalent to the total amount of water consumed by about 131,000 households in one year.</p>
 <b>Waste</b>	<p><b>Waste reduction</b></p> <p>Per year <b>54,575 tons</b> Equivalent to waste generation by about <b>36,000 households</b></p> <p>On average, a single household generates about 1,510 kg*5 of waste per year. The waste reduction of 54,575 tons is therefore equivalent to the total amount of waste generated by about 36,000 households in one year.</p>
 <b>Substances of concern</b>	<p><b>Reduction of substances of concern</b></p> <p>Per year <b>678 tons</b></p>
 <b>Water pollutants</b>	<p><b>Wastewater treatment</b></p> <p>Per year <b>34,332,000 m<sup>3</sup></b> Equivalent to water from about <b>20,000 swimming pools</b></p> <p>The standard size of a swimming pool is 50 m long, 20 m wide, and 1.7 m deep, and its volume is 1,700 m<sup>3</sup>. The 34,332,000 m<sup>3</sup> of wastewater treated is therefore equivalent to the volume of water from about 20,000 swimming pools.</p>
 <b>Soil and groundwater pollutants</b>	<p><b>Remediation of contaminated soil</b></p> <p>Per year <b>423,000 m<sup>3</sup></b> Equivalent to about <b>76,000 10-ton truckloads</b></p> <p>The remediation of 423,000 m<sup>3</sup> of contaminated soil (1 m<sup>3</sup> of soil weighs 1.8 tons) is equivalent to about 76,000 10-ton truckloads.</p>

## The Kurita Group’s Products, Technologies and Services

We propose and provide products, technologies, and services that support customers to improve productivity while reducing 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 services and 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



\*1. The results shown above include the environmental benefits to customers regarding “societal needs.” 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. \*2. CO<sub>2</sub> conversion factors: 0.65 kg-CO<sub>2</sub>/m<sup>3</sup> for tap water and sewage water  
 \*3. Definitive data on greenhouse gas emissions in Japan from April 1, 1990 to March 31, 2010 announced by the Greenhouse Gas Inventory Office of Japan, the Center for Global Environmental Research on April 26, 2011  
 \*4. Use by a household of four members (according to the 2009 survey on water utilization in daily life conducted by the Bureau of Waterworks, Tokyo Metropolitan Government)  
 \*5. Amount of waste generated by a household of four members, which is calculated based on per-capita waste generation shown in the Annual Report on the Environment, the Sound Material-Cycle Society and the Biodiversity in Japan 2010 (released by the Japanese Ministry of the Environment on June 2010)

# Environmental Improvement Examples

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



## Applying Organic Coagulant to Wastewater Treatment Kyushu Gunze Co., Ltd., Miyazaki Factory

Kyushu Gunze Co., Ltd., which is one of the clothing manufacturing bases of the Gunze Group, has been committed to reducing its environmental impact in line with the Gunze Environmental Charter. At the company's factory in Miyazaki, inorganic coagulant is used to treat water pollutants such as dyes contained in wastewater using the coagulation-sedimentation method. In summer, the amount of pollutants contained in wastewater increases, which in turn leads to increases in the use of inorganic coagulant and the generation of sludge.

To help reduce sludge, Kurita's Chemicals Division proposed that the factory (1) apply Kurita's unique organic coagulant to enhance the effect of the inorganic coagulant and (2) introduce a method to control the injection of chemicals into wastewater according to changes in the concentrations of pollutants. By adopting this proposal, the factory was able to reduce its use of inorganic coagulant by 3 tons per year and the generation of sludge by 2 tons per year.



Wastewater treatment system

### Customer's Voice

By adopting the proposal and introducing the automatic control system, we were able to reduce the use of inorganic coagulant and mitigate our worries regarding water management. We think we have built up a win-win relationship with Kurita.

We expect that Kurita, using its broad spectrum of water treatment technologies, will make more proposals to help us reduce our environmental impact also with regard to the operation of boilers and air conditioners, in addition to wastewater treatment.



**Takeshi Fukai**  
Manager of the Second Engineering Section  
**Hironori Nakatani**  
PE Office



## Using a Heat Pump to Heat Water Supplied to the Demineralizer KOA Corporation, Nishiyama Factory

KOA Corporation, which manufactures and sells resistors and various other electronic parts, has been committed to reducing its environmental impact based on the four keywords of "circulation," "limitedness," "harmony" and "richness." The company's Nishiyama Factory was facing the challenge of upgrading the old demineralizer while achieving environmental impact reductions based on the company's environmental policy.

In response, Kurita's Facilities Division investigated the use of heat within the factory, paying attention to the fact that steam generated by a heavy oil boiler was used to heat water to be supplied to the demineralizer. Based on the investigation results, the division proposed heat be recovered from the cooling water used in the manufacturing processes: the heat recovered by the use of a hydrothermal heat pump could be utilized for the water heating. Three months after adopting this proposal and introducing the system, which does not require the use of a heavy oil boiler, the factory was able to reduce CO<sub>2</sub> emissions by 90 tons in total.



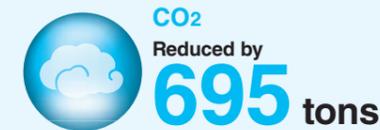
Hydrothermal heat pump

### Customer's Voice

By adopting the proposal, we have reduced the use of heavy oil as well as the operation rate of the existing chiller, thereby increasing the efficiency of the system to as high as COP 8.4 and substantially reducing the use of electricity. The demineralizer supplied by Kurita needs only two-thirds the space taken up by the previous equipment and does not require chemicals for regeneration. The equipment thus provides us with great merits. I expect Kurita to continue making proposals to help the factory improve its wastewater treatment system and recover wastewater for stable and safe operations, with an eye on further environmental impact reductions.



**Masao Kosaka**  
Operations Group Line Leader,  
Kami-Ina Business Field



## Introducing a High-Load Anaerobic Treatment System Suntory Liquors Limited, Yamazaki Distillery

The Yamazaki Distillery of Suntory Liquors Limited, which was the first whiskey distillery established in Japan, treats wastewater in two stages. In the first stage, the distillery uses an anaerobic treatment system, which does not generate much sludge, with a view to reducing CO<sub>2</sub> emissions and waste generation. Biogas generated in the treatment process is recovered for use as steam fuel. In the second stage, the distillery uses an aerobic wastewater treatment system to stabilize wastewater treatment through the combined use of two different treatment methods. The distillery, however, recently faced the problem of increased use of electricity and generation of sludge by the aerobic treatment system, due to increased production.

To help the distillery curtail the environmental impacts of the aerobic treatment system, Kurita's Facilities Division proposed it replace the existing anaerobic treatment system with a new one capable of high-load treatment by the densification of microorganisms. By adopting this proposal, the distillery eventually reduced the use of electricity, etc. for the aerobic treatment system, and reduced its CO<sub>2</sub> emissions by 695 tons per year while also halving the generation of sludge.



High-load anaerobic treatment system

### Customer's Voice

We have been operating the newly introduced anaerobic treatment system in an appropriate manner and achieved 96% removal of water pollutants—well beyond the target of 90%. The removal rate is much higher than that achieved with the previous equipment. Since the launch of the new system, it has been working well and we have not had any associated problems. I feel grateful to Kurita for helping us identify and analyze the factors causing changes in wastewater load and quality. I hope that Kurita will continue making proposals to help us achieve further environmental impact reductions and ensure stable operations.



**Kazuyuki Nishiwaki**  
Engineering Group



## Reducing the Moisture Content of Dehydrated Cakes Daicel Chemical Industries Ltd., Himeji Production Sector

Daicel Chemical Industries Ltd., which manufactures a range of chemicals including cellulose, is committed to environmental protection and safety assurance in all its business operations from the development of products through to their disposal. The Himeji Production Sector of the company dries dehydrated cakes generated from its wastewater treatment system to use as fertilizer, thereby reducing waste. The sector, however, uses heavy oil as fuel to dry the cakes.

To help reduce the use of heavy oil as fuel, Kurita's Chemicals Division proposed that the moisture content of the dehydrated cakes first be reduced by selecting and using an optimal high-polymer dehydration agent in consideration of the properties of the cakes. Adopting the proposal, the sector began conducting field experiments to select the optimal dehydration agent and then started to use the agent selected on a full scale. As a result, the amount of heavy oil used to dry the cakes has been significantly reduced, leading to 499 ton reduction in CO<sub>2</sub> emissions per year.



Sludge dehydration system

### Customer's Voice

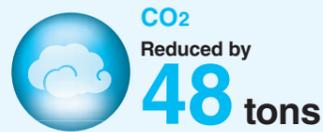
As a result of applying the method proposed by Kurita, the moisture content of dehydration cakes dropped to a level that caused the clogging of the cake transportation equipment. We therefore reduced the use of the dehydration agent, but without having to increase the use of heavy oil. The proposal enabled us to reduce both the cost of manufacturing fertilizer and energy use.

At our site, the number of experts in water treatment has decreased following the retirement of experienced employees, and we therefore want Kurita to continue to identify potential problems and make proposals to help us solve any problems that arise.



**Hideki Kondou (left)** Manager, Energy  
**Kiyomi Sumi (center)** Chief Engineer, Energy  
**Takanori Suzuki (right)** Chief Engineer, Energy

# Environmental Improvement Examples



## Reducing Energy Loss at the Cooling Water System Toyota Motor Kyushu Inc., Miyata Plant

Toyota Motor Kyushu Inc. manufactures and sells automobiles and automobile parts. The company regards the implementation of environmental conservation measures as one of its most important management targets and is committed to bettering the global environment on a company-wide basis. The company's Miyata Plant recently faced issues with its newly established cooling water system: due to slime, the freezer's pressure rose, causing the suspension of the system. Decreases in energy exchange efficiency caused by the slime in turn caused energy loss. The plant therefore needed to introduce permanent measures to get rid of the slime.

Kurita's Chemicals Division conducted an onsite survey in cooperation with the plant and identified what was causing the slime, while also analyzing the heat exchange efficiency in reference to LTD values and other data. The division then proposed the plant use the optimal water treatment chemicals and introduce a system to monitor the slime prevention effect and automatically add the chemicals according to the results. By adopting this proposal, the plant reduced energy loss and also cut CO<sub>2</sub> emissions by 48 tons per year.



Cooling tower

### Customer's Voice

The adoption of Kurita's proposal has made the cooling water system almost maintenance-free, and we can now manage the system much more easily. Judging from the stability of the LTD value, energy loss seems to have been reduced and we are also satisfied with the water saving effect of 2,740 m<sup>3</sup> per year. Kurita's salespeople are very good to us, and we want them to continue helping us maintain and improve equipment efficiency at our plant.



**Hitoshi Tashiro**  
Environmental Facilities Section, Technology and Production Planning Dept.  
**Kenichi Yamada**  
Manager of the Environmental Facilities Section, Technology and Production Planning Dept.



## Introducing an Electrodeionization System Nippon Electric Glass Co., Ltd., Shiga-Takatsuki Plant

Nippon Electric Glass Co., Ltd. which mainly manufactures and sells special glass, has been implementing an "environmental business plan" to reduce the environmental impacts of its business operations in proportion to the weight of products manufactured and sold. The Shiga-Takatsuki Plant of the company is located near Lake Biwa and is particularly committed to reducing the use and discharge of water. With regard to the existing demineralizer, the plant needed to reduce wastewater from the process to regenerate ion-exchange resins using chemicals.

Kurita's Facilities Division proposed that the plant replace the equipment with new machinery that regenerates ion-exchange resins using electrodeionization technology. The adoption of this proposal has led to reductions in both the amount of wastewater generated and the use of chemicals to zero (in the regeneration process). Specifically, the plant reduced the generation of wastewater by 36,000 m<sup>3</sup> per year (16 tons in terms of CO<sub>2</sub> emissions) and the use of chemicals by 81 tons per year.



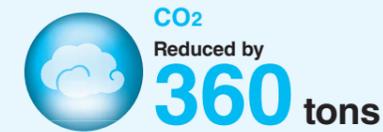
Electrodeionization system

### Customer's Voice

We were using hydrochloric acid and sodium hydroxide for the regeneration of ion-exchange resins. As a result of adopting Kurita's proposal, it is no longer necessary for us to treat the deleterious substances or store them and worry about the risk of leakage and other incidents. The proposal is indeed a good one also from the viewpoint of safety assurance. Moreover the reuse of concentrated water discharged from the demineralizer, which was also proposed by Kurita, has enabled us to reduce the use of water by 29,000 m<sup>3</sup> per year. Kurita knows much about how we use water at the plant and we expect that the company will continue making improvement proposals to help us further reduce our environmental impacts.



**Yoshihiro Yokota**  
Environmental Protection and Utility Supply Department, LCD Glass Division, Production  
**Masami Taninami**  
Manager Environmental Protection and Utility Supply Department, LCD Glass Division, Production



## Improving Water Quality by the Use of Water Treatment Chemicals Nippon Daishowa Paperboard Co., Ltd., Yoshinaga Mill

Nippon Daishowa Paperboard Co., Ltd. manufactures cardboard and paperboard. Its Yoshinaga Mill has been committed to implementing anti-global warming measures and recycling resources as a member of Nippon Paper Group. The plant has been recovering and reusing wastewater from the manufacturing process to reduce water use and recover unused fibers contained in wastewater. The quality of old paper used as materials, however, has been decreasing, resulting in lower quality of recovered wastewater. This has also had an adverse impact on the quality of products manufactured. The plant was therefore unable to recover and reuse wastewater as planned.

Kurita's Chemicals Division proposed that wastewater quality be improved by adding highly antiseptic water treatment chemicals, diagnosing that microorganisms in the wastewater had a detrimental impact on quality. By adopting the proposal and managing water quality using the ORP value as an indicator, the plant is now recovering 6,000 m<sup>3</sup> of wastewater per day and reducing CO<sub>2</sub> emissions by 360 tons per year.



Wastewater reclamation systems

### Customer's Voice

By adopting the proposal, we were able to improve the quality of recovered wastewater to a level suitable for paper manufacturing. The proposal has helped us achieve our target in regard to the recovery of wastewater. For the recycling of resources, the paper industry has been fostering the use of old paper as a material, and the quality of our products might continue to be affected by the lowered quality of old paper used as materials. We expect Kurita to make further proposals for improvement so that we may continue to progress.



**Kimitaka Kameda**  
Deputy General Manager, Paper Production Dept. Manager, Sec.1



## Making Effective Use of Biogas Hiroshima Food Industry Complex Cooperative Association

At the Hiroshima Food Industry Complex, where various food companies including those that manufacture prepared food and sauces are concentrated, wastewater from factories are gathered at one place for efficient treatment. Also for the reduction of environmental impacts, biogas generated from the anaerobic wastewater treatment facility is used as boiler fuel, and steam from the boiler is distributed to each factory. Wastewater is mostly composed of water used to clean manufacturing equipment, which is discharged in the evenings after production has finished for the day. Biogas is therefore generated mainly overnight, and the amount of biogas generated during the day tends to be quite low. The cooperative association therefore needed to use other fuel to cover the shortage of biogas during the day.

Kurita's Facilities Division analyzed the relationships between the wastewater volume, concentrations of substances in the water, and the amount of biogas generated in cooperation with the Research and Development Division and proposed the cooperative association change the operational pattern of the wastewater treatment facility in consideration of the operational conditions of each factory. As a result of adopting this proposal, the amount of biogas generated during the daytime increased, allowing the complex to reduce the use of heavy oil for boiler, thereby reducing CO<sub>2</sub> emissions by 1,237 tons per year.



Anaerobic wastewater treatment facility and biogas storage tank

### Customer's Voice

We were glad to be able to reduce the use of heavy oil beyond expectation by adopting the proposal. The proposal includes the utilization of the Ministry of the Environment's Offset Credit (J-VER) Scheme, and Kurita's sales and development staff kindly helped us calculate the possible reduction of CO<sub>2</sub> emissions and other technical data necessary to file an application for the scheme to the Ministry. We are really thankful for their help. Kurita is now proposing that we use biogas for power generation, and we expect that the company will continue to make proposals as a professional in water treatment.



**Toru Nito**  
Executive Director, Hiroshima Food Industry Complex Cooperative Association  
**Tomokazu Kamiyama**  
Shoukou Center, Suikou Engineer Co., Ltd.

# Environmental Improvement Examples



## Using Chemicals to Reduce Pressure Loss and Save Electricity Used for the Circulation Pump Mitsui Fudosan Co., Ltd., Nihonbashi 1-Chome Building

Based on its concept of developing environmentally rich communities for people and the Earth, Mitsui Fudosan Co., Ltd. has been striving to acquire certification as "top-level installations" or "near-top-level installations" for its buildings in cooperation with a building management company belonging to the Mitsui Fudosan Group. The certification program is implemented by the Tokyo metropolitan government based on its environmental ordinance, and installations that have achieved excellent results in tackling global warming are certified as "top-level installations" or "near-top-level installations" by the government. The company's Nihonbashi 1-Chome Building needed to effectively reduce its CO<sub>2</sub> emissions to obtain certification as a "near-top-level installation."

Kurita Buil-Tech proposed that the building management company use chemicals to reduce pressure loss inside the cooling water piping, thereby reducing the use of electricity for the circulation pump. Then, using its unique know-how, Kurita Buil-Tech identified the appropriate injection point and injection volume for the chemicals, and measured data to verify the effect of injection in cooperation with the customer. Subsequently, we started to use the chemicals on a full scale at the building. As a result, CO<sub>2</sub> emissions were reduced by 8 tons per year, and the building was certified as a "near-top-level installation."



Pump of the cooling water system

### Customer's Voice

We are engaged in facilities management for the Nihonbashi 1-Chome Building. The building has a complicated piping system including cooling water pipes, and the pressure loss of the system was relatively large. The use of the pressure loss reduction chemicals is estimated to have reduced CO<sub>2</sub> emissions by 8 tons per year according to calculations, but in fact we believe the use of the chemicals has brought about even greater benefits to us. We expect that Kurita will propose further management ways to maintain the pressure loss reduction effect and help us implement new energy conservation measures.



**Kiyotoshi Nishino**  
First Facilities Co., Ltd.  
**Hiroshi Oyama**  
First Facilities Co., Ltd.



## Reducing CO<sub>2</sub> Emissions by Using Specialized Equipment to Recover Blow Water Released from the Cooling Tower Yokohama City University Hospital

Yokohama City University Hospital is committed to saving energy as an important management priority. To this end, the hospital examined measures such as updating the existing equipment to more energy-efficient models in cooperation with an energy service company (ESCO). Also regarding water as an important resource, the hospital examined measures to reduce water usage.

Kurita Buil-Tech proposed the ESCO make effective use of blow water released from the cooling tower by treating it with membrane equipment. This proposal was adopted along with other energy conservation measures, and as a result the hospital was able to recover and reuse 1,763 m<sup>3</sup>\* of blow water, which is equivalent to 1-ton of CO<sub>2</sub> emissions.

\* Actual data for the period from July 2010 to March 2011



Equipment to recover blow water released from the cooling tower

### Customer's Voice

By adopting the proposal, we are now reusing 70% of the blow water, thereby achieving water savings. We have a long contract with ESCO, and it is our hope it will continue helping us save water. We expect Kurita to make proposals for optimal and stable operational management with regard to water treatment, following the proposal on the cooling water system made in cooperation with ESCO.

**Hiroshi Ito**  
General Affairs Section, Medical Headquarters  
**Katsumi Watanabe**  
General Affairs Section, Medical Headquarters

## Examples of Environmental Benefits for Customers

<b>Chemical factory</b>	<b>CO<sub>2</sub> emissions reduction:</b> 1,943 tons/year
The factory was able to reduce its use of boiler fuel by replacing its existing boiler with a highly energy-efficient model capable of continuously controlling the use of fuel based on the steam pressure.	
<b>Power generation plant</b>	<b>Waste reduction:</b> 314 tons/year
The plant decontaminates liquid containing high concentrations of chemical substances from the chemical cleaning of steam pipes by the use of a wastewater treatment system. The highly concentrated wastewater is heated to reduce the amount of waste.	
<b>General households</b>	<b>CO<sub>2</sub> emissions reduction:</b> 25,808 tons/year
General households were able to reduce use of tap water and gas for heating by installing water-saving shower heads developed and sold by Kurita to faucets.	
<b>Semiconductor and LCD plant</b>	<b>Waste reduction:</b> 562 tons/year
The plant removed chemical substances and stains attached to the components of its semiconductor and LCD manufacturing equipment, thereby making prolonging their lives and reducing the generation of waste.	
<b>Textile dyeing factory</b>	<b>Treatment of wastewater:</b> 20,000 m <sup>3</sup> /year
The factory stabilized the treatment of wastewater by introducing a coagulation treatment system for highly concentrated wastewater and discontinuing mixed treatment of low- and high-concentration wastewater.	
<b>Semiconductor plant</b>	<b>CO<sub>2</sub> emissions reduction:</b> 49 tons/year
The plant improved its water recovery rate and saved more water by applying scale inhibitor to the RO membrane equipment used to recover wastewater.	
<b>Shielded tunnel digging site</b>	<b>CO<sub>2</sub> emissions reduction:</b> 105 tons
At the site, dehydration agent was used to shorten the time required to dehydrate mud water generated from shielded tunnel digging, which in turn reduced the use of electricity used for the dehydration equipment.	
<b>Beverage factory</b>	<b>CO<sub>2</sub> emissions reduction:</b> 62 tons/year
The factory attached a heat-insulating cover to steam pipes to reduce heat released from the pipes, thereby decreasing the use of boiler fuel.	
<b>Food factory</b>	<b>CO<sub>2</sub> emissions reduction:</b> 68 tons/year
The factory introduced a system to recover and reuse wastewater from the product container cleansing process, thereby reducing the use of clean water and saving water resources.	
<b>Chemical factory</b>	<b>Contaminated soil remediation:</b> 224,000 m <sup>3</sup>
The factory removed hazardous substances contained in groundwater by the use of a treatment system newly developed in consideration of the properties of the contaminants, thereby purifying the contaminated groundwater.	

## Glossary of Terms

<b>Inorganic coagulant</b>	A chemical agent that collects suspended matter in water and coagulates them into larger particles.
<b>Organic coagulant</b>	A chemical agent that can coagulate a greater volume of suspended matter in water than inorganic coagulant.
<b>Heat pump</b>	Equipment that exchanges heat with surrounding air and water by using the vaporization heat and condensation heat from heating media
<b>COP</b>	COP stands for coefficient of performance and indicates energy consumption efficiency. For example, COP 8.4 indicates that 8.4 kWh of heat can be generated by the use of 1 kWh of electricity.
<b>Demineralizer</b>	Equipment to demineralize water by removing suspended matter, salts, and organic matter contained in the water.
<b>Concentrated water</b>	Water wasted from the demineralization process, which contains impurities at high concentrations.
<b>Sludge</b>	Sludge refers to the pollutants in wastewater that have precipitated or floated up to the surface of the water to form a muddy film. Generally, sludge is dehydrated to reduce its volume and weight and then disposed of as waste.
<b>Anaerobic treatment</b>	Method to treat organic matter in wastewater by the use of microorganisms, which decompose organic matter into methane and CO <sub>2</sub> under oxygen-free conditions.
<b>Aerobic treatment</b>	In contrast to anaerobic treatment, microorganisms decompose organic matter into water and CO <sub>2</sub> with the help of oxygen.
<b>LTD value</b>	LTD stands for leaving temperature difference, which is an indicator that shows differences in temperature between refrigerant and the cooling water used to cool the refrigerant.
<b>High-polymer dehydration agent</b>	A chemical agent that fosters dehydration by separating moist solids contained in sludge into solids and water.
<b>Ion-exchange resin</b>	A type of synthetic resin that exchanges ions in water and its own ions, which is regenerated for reuse when there are no more ions to be exchanged.
<b>Biogas</b>	Gas generated when organic matters are decomposed by microorganisms.
<b>ORP value</b>	ORP stands for oxidation-reduction potential, which can be used as an indicator of the amount of microorganisms in water.
<b>J-VER</b>	A scheme implemented by the Ministry of the Environment, in which the amounts of greenhouse gas emissions reduced and absorbed through the projects implemented within Japan under the scheme are certified as credits that can be traded for carbon offsets.
<b>Environmental ordinance</b>	Environmental ordinance issued by the Tokyo metropolitan government to ensure the health and safety of citizens. The Tokyo metropolitan government became the first local government to impose CO <sub>2</sub> emission reduction duties on local large business installations.
<b>ESCO business</b>	An energy service company (ESCO) provides customers with comprehensive energy conservation services and accepts a part of the savings achieved through the utilization of the services as compensation.
<b>Blow water released from the cooling tower</b>	Water is regularly released from the cleaning tower to maintain the cooling water quality.

# 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, waste and wastewater treatment systems.

## Results in Fiscal Year ended March 2011

Item	Fiscal 2011		
	Target	Result	
CO2	Emissions per ¥1 million sales	Below 111.3 kg- CO2	132.1 kg- CO2
	Absolute amount	Below the previous fiscal year level (23,563 tons)	23,941 tons
Waste	Absolute amount	Below the previous fiscal year level (26,186 tons)	24,739 tons
Management of chemical substances, waste, and wastewater treatment systems	Appropriate management of chemical substances and waste at each business site	Monitored the management of chemical substances and waste to ensure the appropriateness of the management, and also implemented measures to ensure appropriate management of wastewater treatment systems.	

### CO2 Emissions Reduction

For CO2, we were unable to achieve the targets for “Emissions per ¥1 million sales” or for “Absolute amount,” because of the launch of new business sites and also because increases in the use of energy to manufacture more water treatment chemicals and to make more analyses exceeded the consumption of energy reduced through the following measures. Specifically to reduce energy use, we turned off power switches and air conditioning equipment when not in use, introduced inverters to pumps, updated air conditioners to more energy-efficient models, made effective use of steam from the testing and research boiler, and fostered eco-friendly driving.

### Waste Reduction

We achieved the target for “Absolute amount,” as a result of managing the materials for water treatment chemicals and products in stock in a more appropriate manner.

### Improved Recycling Rate

The recycling rate was improved by 7.6% year on year to 24.2%, by promoting the sorting of waste to recycle more metals, wood chips, and other recyclable resources.

### Management of Chemical Substances, Waste and Wastewater Treatment Systems

At the 121 sites included in our management target, site managers carried out self-investigations. Moreover, the Environmental Improvement Promotion Committee members and the secretariat staff conducted onsite investigations at 32 sites. All of the sites that were recommended to make improvements based on the results of the investigations completed the implementation of corrective measures within fiscal 2011.

Also in fiscal 2011, we began monitoring the management of wastewater treatment facilities to manage water quality and make emergency responses as required.

### Example of Initiatives Taken for Energy Conservation

#### Kurita Global Technology Center

The Kurita Global Technology Center serves as a R&D base for water treatment chemicals and water treatment facilities. This center uses actual boilers and cooling water facilities to develop new products and test their effectiveness. The center began to make effective use of steam generated from the testing and research boiler, which was unused before, for heating, thereby reducing the use of heavy oil as fuel for the utility boiler by about 100 kiloliters.

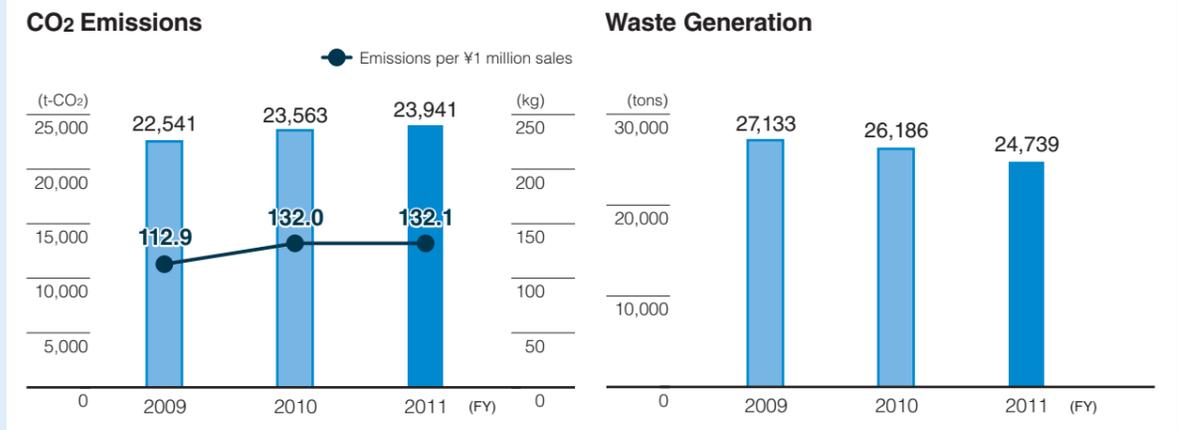
## Targets for Fiscal Year ending March 2012

Item	Target	
Energy use	Per-unit energy use	Reduce by 2.0% or more from the fiscal 2010 level
CO2 emissions	Absolute amount	Below 163,736 tons
Waste	Absolute amount	Below the previous fiscal year level (59,477 tons)
Management of chemical substances, waste, and wastewater treatment systems	Appropriate management of chemical substances, waste, and wastewater treatment systems at each site.	

In fiscal 2012, we newly set a numerical target for per-unit energy consumption to ensure compliance with the Act on the Rational Use of Energy.

In addition, we included the sites engaged in the ultrapure water supply business in the data tabulation target. In the ultrapure water supply business, Kurita Water Industries supplies ultrapure water to customers by operating the ultrapure water production system and wastewater treatment and recovery facilities constructed at the customers' sites and owned by Kurita. The energy used for the operation and maintenance of the facilities, use of water resources, and waste from wastewater treatment facilities are included in the management target.

## CO2 Emissions and Waste Generation



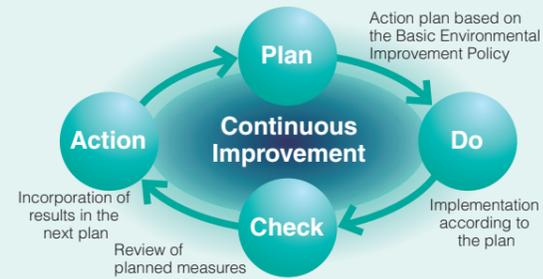
## Environmental Management

In order to execute a PDCA cycle for environmental improvement activities more effectively, we have built up an organizational system to promote the activities across the Group.

### 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



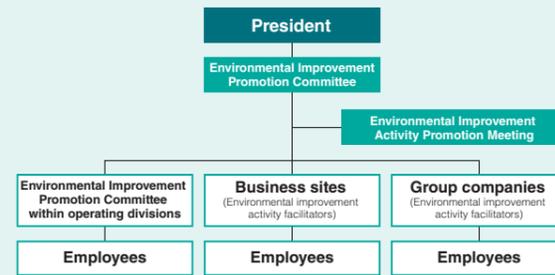
#### Introduction of Environmental Management Systems

Kurita Water Industries has been fostering the establishment and operation of ISO 14001-certified environmental management systems at its own sites and Group companies as part of its environmental improvement activities.

#### Acquisition of ISO 14001 Certification by the Kurita Group

Company name	Site	Acquired date
Kurita Water Industries Ltd.	Shizuoka, Tsuruga, Toyoura, and Yamaguchi	July 1998
Kurita Buil-Tech Co., Ltd.		March 2002
Kurita Chemicals Oita Ltd.		June 2002
Kurita Chemical Manufacturing Ltd.	Head office and Ako	March 1997
Kuritaz Co., Ltd.		Feb. 2000
Kuritec Service Co., Ltd.	Head office and Tobu, Mie, Iga, Harima, and Oita	Feb. 2003

#### Organizational System for Promoting Environmental Improvement Activities



#### Compliance with Environmental Laws and Regulations

In fiscal 2011, we received no administrative punishments for noncompliance with laws, regulations, or ordinances. There was, however, a problem concerning wastewater treatment at a Group company site, and this was reported to the relevant governmental authorities. Measures were implemented to clarify the cause of the problem and prevent the recurrence of similar incidents.

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

- Water Pollution Control Act
- Act on the Rational Use of Energy
- Act on Promotion of Global Warming Countermeasures
- 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 Service Act
- Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

### 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 2011, the Foundation selected 48 research projects from among 415 applications and awarded subsidies to selected applicants. Moreover, the Foundation granted prizes of excellence to researchers selected from among those who had received research grants from the Foundation in the past, in recognition of their outstanding research results and social contributions. In addition, the Foundation is supporting the commendation program implemented by the Japan Society on Water Environment to motivate young researchers and foster international exchange activities to contribute to the solution of water- and environment-related problems in Asia.



Subsidy granting ceremony held for fiscal 2011.

## 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 2011, 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 Toshiyuki Nakai, 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 Sakai site located within the Sharp Green Front Sakai 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 states in its 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." Accordingly in fiscal 2011, as in the previous fiscal year, the Group conducted environmental improvement activities in the aspects of "societal needs," "customers' needs," and "internal change."

The Kurita Group aims to reduce CO2 emissions and waste and increase its recycling rate as its environmental improvement targets, and the Group achieved almost all the targets for fiscal 2011. In the fiscal year, the Group began reviewing its environmental accounting system to utilize environmental accounting as a tool to increase the efficiency of its environmental improvement activities by the use of company-wide data, including data for multiple business fields. It can be evaluated that the Kurita Group has been steadily improving its environmental management. We expect that the Group's environmental impact will be further reduced through the more effective utilization of environmental accounting.

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, who was interested in reducing the environmental impact of its business activities, replaced its aged demineralizer needing chemicals for regeneration with an electrodeionization type proposed by Kurita. As a result, the company no longer needs to use the chemicals, thereby reducing its environmental risk, and the frequency of parts replacement has also decreased, leading to cost reductions. The customer is highly satisfied with Kurita's proposal, which has contributed to substantial environmental impact reductions, and has built up good relations of trust with Kurita. 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 2011, we visited the Sakai site located within a large LCD manufacturing complex (Sharp Green Front Sakai), where multiple companies including Kurita have their bases. At the Sakai site we interviewed employees in charge about their environmental improvement activities and checked the results. Through the visit to the site, we have confirmed the following facts. The Sakai site supplies demineralized water to a lot of companies operating in Sharp Green Front Sakai and recycles wastewater into industrial water used for production. The Sakai site of Kurita Water Industries thus greatly contributes to the effective use of water by the entire complex in addition to supplying demineralized water to companies located within the complex. The site is actively reducing energy use and waste generation and managing progress with its environmental improvement activities. The site's environmental management system is effectively functioning, and we highly appreciate these environmental improvement activities conducted by the Sakai site.

July 25, 2011

Institute for Environmental Management and Accounting  
Eriko Nashioka (Director/CPA & Certified Public Tax Accountant)

Hiroshi Okada (Senior Researcher/Doctor [in Engineering and Business Administration] and Professional Engineer)