KURITA

The Kurita Group

Sustainability Report 2021

Fiscal year ended March 31, 2021

Editorial Policy

The Kurita Group Sustainability Report 2021 ("the Report") is published as a report to all stakeholders on the Group's main CSR-related approaches and materiality, as well as its main initiatives during fiscal 2021.

Structure

The Report is broadly comprised of two sections on the Kurita Group's initiatives related to CSR: a section reporting on strategic initiatives undertaken during the target period; and a section with follow up reports on each of the Group's seven materiality themes. Information on other initiatives can be found on the Company's website.

Organizations covered

The Kurita Group

Period covered

Fiscal 2021 (April 1, 2020 to March 31, 2021)

* Some information on policies, structures, and initiatives prior to and beyond fiscal 2022 is included in the report as necessary.

Guidelines referred to

GRI Standards etc

Supplementary information to the contents of the report

- In the Report, "the Company" refers to Kurita Water Industries Ltd.; "the Company and its domestic Group companies" refers to Kurita Water Industries Ltd. and its Group companies in Japan; and "the Kurita Group" refers to all Group companies including those overseas. Information pertaining to specific companies is presented using the names of the companies.
- Regarding environmental and social data, there is some variation in the figures reported for fiscal 2020 owing to revisions to the aggregation range of Scope 1, 2 and 3 emissions based on the GHG protocol.

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Message from the President

Contributing to solving social issues with diverse solutions created from our “water knowledge”

Michiya Kadota
President and Representative Director

Redefining the Shape of Kurita’s Business Starting from Social Issues

The COVID-19 pandemic has set in motion dramatic changes in society, with restrictions on mobility leading to new ways of working and living. The pandemic has also transformed the Kurita Group’s operating environment. Although capacity utilization declined at customer plants, we have seen widespread adoption of remote working and an acceleration in digital transformation (DX), spurring the launch of water treatment facility operation and management services using remote monitoring. In the 72 years since the Kurita Group’s founding, we have remained steadfastly focused on the water and environment fields in order to realize our corporate philosophy: “Study the properties of water, master them, and we will create an environment in which nature and man are in harmony.” The pandemic has also served to highlight the value the Kurita Group creates for society and the Group’s purpose – reliably providing indispensable water-related solutions to ensure business continuity at customers that support society and industry. Against this backdrop, the Board of Directors approved “Kurita’s value creation story” that sets out how the Group should grow together with society in order to realize its corporate philosophy and generate value for society over the long term. By clearly defining the Kurita Group’s purpose and its competitive advantages (water knowledge accumulated from diverse points of contact with sites) and by redefining the shape of Kurita’s business starting from social issues, the value creation story shows all our employees how the Group will provide new value going forward.

Toward Solving Social Issues Through Our Business Activities

The Kurita Group has worked to address social issues through its business activities in the areas of water and the environment. This approach is particularly evident in our current five-year medium-term management plan, Maximize Value Proposition 2022 (MVP-22), which launched in fiscal 2019. One of the plan’s priority measures is to expand and develop the CSV business, which is defined as products, technologies or business models that contribute to the attainment of the SDGs and these targets of significantly increased water-savings, CO_2 emissions reduction, and waste reduction.

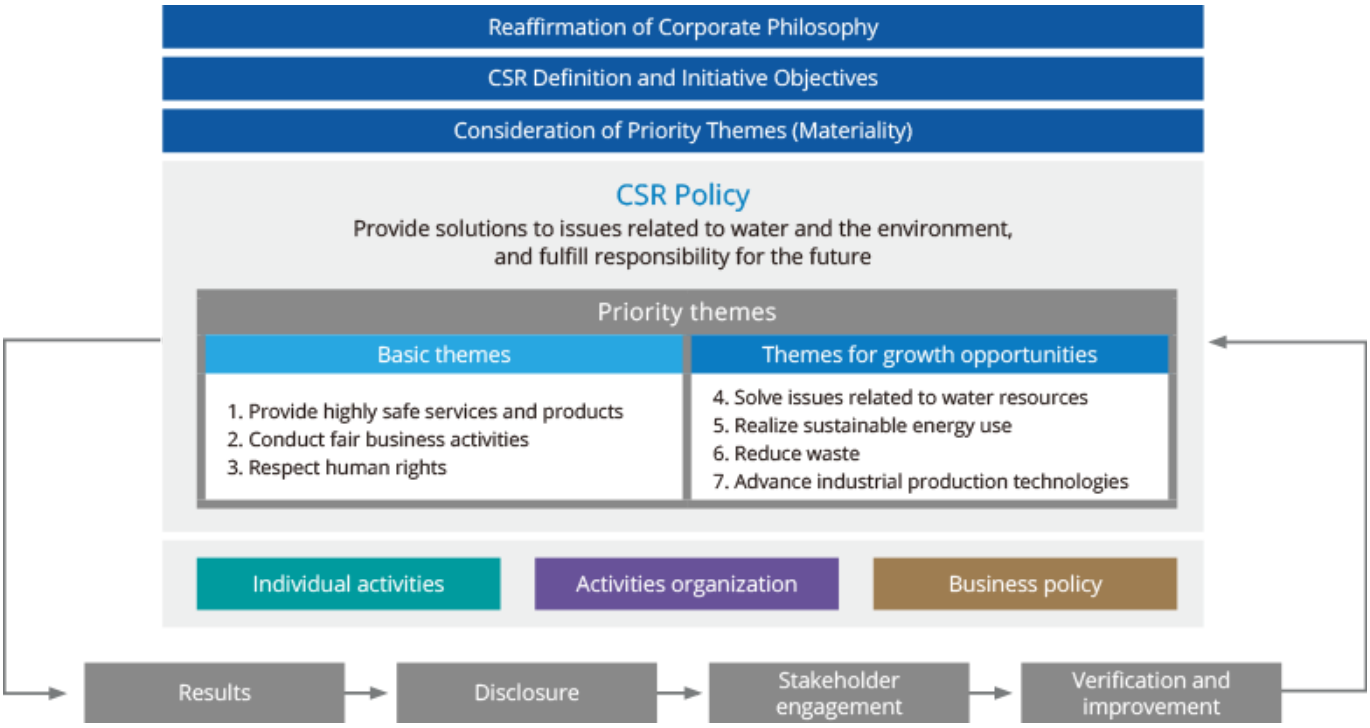
In addition to the plan's measures, we launched new initiatives in fiscal 2021. In one initiative, we participated in the Water Resilience Coalition (WRC) as a Leadership Committee member. The coalition was established under the UN Global Compact (UNGC) to tackle issues related to water resources. The WRC's long-term goal is to protect and restore water resources in basins facing serious water resource problems all over the world. Through this initiative, the Group will gain access to new knowledge in areas where it has had little contact so far, reinforcing our capacity to create value for society.

In another initiative, we are stepping up efforts to address climate change. In addition to the Group's existing contribution to reducing CO_2 emissions (CO_2 emissions reduction at customers – CO_2 emissions from our business activities), we have set new long-term CO_2 emissions reduction targets in line with the Task Force on Climate-related Financial Disclosures (TCFD) Recommendations. These efforts will be supervised by the Board of Directors. Based on the common public targets of reducing emissions in the Scope 1, 2 and 3, we will take concrete steps to decarbonize our operations and those of our customers by shifting to renewable energy and stepping up the development of CSV businesses that help reduce CO_2 emissions from our products at point of use by customers – the category that accounts for most the Kurita Group's CO_2 emissions.

These two initiatives mark the first time for the Kurita Group to seek to share issues with society and address these issues based on a long-term timeline extending to 2030 and 2050. The initiatives shift the existing focus of our environmental efforts from the narrow scope of our own business activities to shared global issues that have a wider impact on society.

I believe the Kurita Group can have a positive impact on not a few of the issues faced by the world today. We will strive to realize our corporate philosophy by dismantling the preconceived idea that we can only have an impact in areas related to existing business fields and solutions and by continuing to describe the value creation story from a long-term perspective that shows the pathway that Kurita will follow to solve issues faced by society with a wealth of diverse solutions created from our "water knowledge."

CSR Management



Definition and Objectives of CSR

The Kurita Group defines its CSR as “the Kurita Group’s responsibility for its impacts on society.” Premised on legal compliance, the Group has set the following two objectives for its CSR initiatives. The Group will take action by positioning these initiatives at the core of its corporate activities and management strategies.

Definition

The Kurita Group’s responsibility for its impacts on society

Objectives

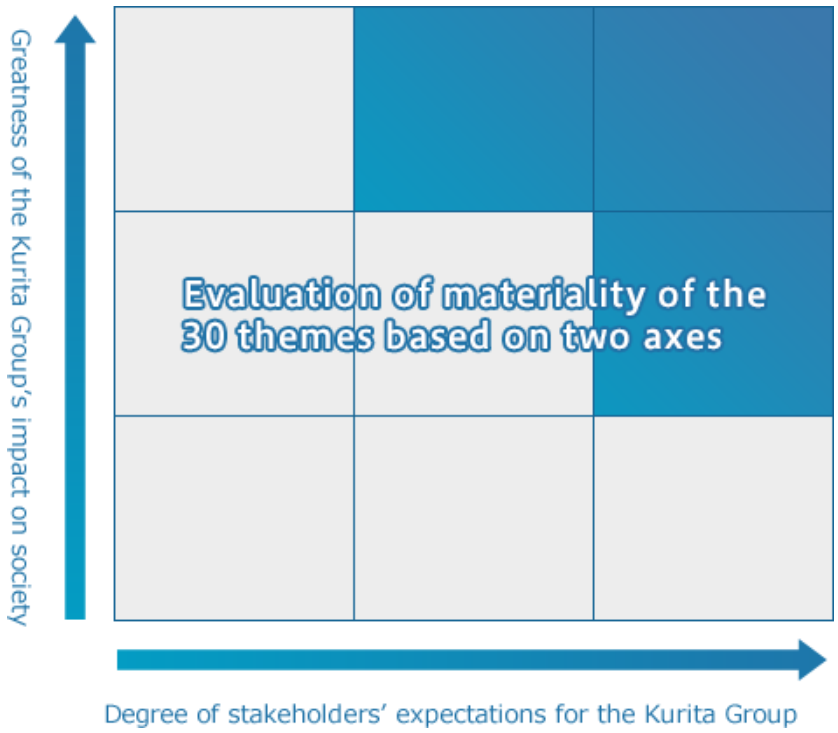
1. Creating and maximizing shared value for the Kurita Group and society
2. Identifying, preventing and mitigating possible adverse impacts by the Kurita Group

Identification of Materiality

Through the following steps, the Kurita Group identified seven material issues related to CSR and finalized as Kurita's CSR Policy, including what we should be like and the frame of mind that we should maintain firmly in 2030.

Step 1: Evaluation of Materiality

By referring to the GRI standards, ISO 26000 (Guidance on social responsibility), "OECD Guidelines for Multinational Enterprises: Recommendations for Responsible Business Conduct in a Global Context" by the Organization for Economic Co-operation and Development (OECD), the 10 Principles of the United Nations Global Compact (UNGC), and Sustainability Development Goals (SDGs), a total of 30 themes on sustainability have been identified and the E&S (Environmental & Social) committee of Kurita evaluated their materiality based on two axes of: 1) Degree of stakeholders' expectations for the Kurita Group and; 2) Greatness of the Kurita Group's impact on society.



Step 2: Identification of Materiality

Based on the results of the evaluation in Step 1, we repeated discussions in line with two themes: tasks that should be positioned as the base of management, and business activities and growth opportunities for achieving our Corporate Philosophy, and identified seven material issues. Further, we have set "what we should be like in 2030" or the "frame of mind" that we should maintain firmly, for each theme.

Step 3: Confirmation of Adequacy

The E&S Committee and Executive Committee of Kurita confirmed the adequacy of the seven material issues, what we should be like in 2030, and the frame of mind that were identified in Step 2, and they were finalized as Kurita's CSR Policy by its Board of Directors.

Determination of the CSR Policy

CSR Policy, Targets, and Achievement Status

To promote its CSR initiatives, the Kurita Group has set out the priority themes as a common policy for the Group as follows. The Kurita Group supports the sustainable development goals (SDGs), and has set out its priority themes to conform them.

Provide Solutions for Issues Related to Water and the Environment, and Fulfill Responsibility for the Future									
	Priority themes	Contribution to the SDGs	Initiatives toward 2030	Metrics	Medium- to long-term targets		Targets for the fiscal year ended March 31, 2021		Evaluation*1
						Target year		Result	
Basic themes	1. Provide highly safe services and products		Maintain social trust by developing and providing services and products reflecting considerations for safety, health, and the environment.	1) Rate of product safety evaluations for newly developed products	100%	FY2023	100%	100%	Achieved
				2) Rate of front-line employee participation in regular safety training directly related to products and services	100%		100%	100%	Achieved
	2. Conduct fair business activities		Maintain fair and transparent trade based on free competition. Maintain sound relationships with politics and administration.	Rate of participation in compliance-related training	100%	FY2023	100%	100%	Achieved
	3. Respect human rights		Support and respect international norms related to human rights and promote human rights initiatives by following the Guiding Principles on Business and Human Rights established by the United Nations.	1) Rate of participation in human rights-related training	100%	FY2023	100%	100%	Achieved
				2) Rate of front-line employee participation in safety training directly related to site operation	100%		100%	100%	Achieved
Themes for growth opportunities	4. Solve issues related to water resources		Supply water at the optimum quality and quantity by securing as much water as necessary for the life of all people and the development of industry by applying technologies for saving, purifying, and reusing water.	Water savings at customers – Amount of water intake used in our business activities	240 million m³	FY2023	66 million m³	97 million m³	Likely to be achieved
				Number of people that can benefit from improvement in water resources*2	700 million people	FY2031	—		
	5. Realize sustainable energy use		Optimize energy use in living and in industries, and introduce technologies for creating energy throughout society.	CO_2 emissions reduction at customers – CO_2 emissions from our business activities*3	10,000 t	FY2023	52,000 t	45,000 t	Likely to be achieved
				Scope 1 and 2 emissions reduction (rate of reduction since fiscal year ended March 31, 2020)*4	27.5%	FY2031	—		
					100%	FY2051	—		
				Scope 3 emissions reduction (rate of reduction since fiscal year ended March 31, 2020)*4	27.5%	FY2031	—		
	6. Reduce waste		Introduce technologies for using waste as resources and technologies for controlling the amount of waste in order to achieve zero waste.	Waste reduction at customers – Waste generated from our business activities	450,000 t	FY2023	173,000 t	215,000 t	Likely to be achieved
	7. Advance industrial production technologies		Make full use of big data on water to contribute to innovations in production efficiency and product quality in industries.	Proportion of themes falling into "Contribution to improvement of production process" to product development themes	35%	FY2023	42%	39%	Achieved

*1 Evaluations of themes 1, 2 and 3 are based on annual goals and results.
Evaluations of themes 4, 5 and 6 are based on annual results relative to medium- and long-term targets.
Medium-term target for theme 7 is set based on levels necessary for the Kurita Group to continue providing products, technologies and business models to society that drive improvements in industrial production technology.
Consequently, evaluation of theme 7 is based on medium-term target and result for the fiscal year under review.

*2 Number of people that can benefit from improvement in water availability, water quality, and water accessibility in highly-stressed basins. This target was added from the fiscal year ending March 31, 2022, so no information has been provided for target, result and evaluation for the fiscal year ended March 31, 2021.

*3 "CO_2 emissions from our business activities" include emissions generated from the ultrapure water supply business, which comes under Category 13 of Scope 3, as well as emissions in Scope 1 and 2 stipulated in the GHG Protocol.

*4 These targets were added from October 2020, so no information has been provided for targets, results and evaluation for the fiscal year ended March 31, 2021.

Stakeholder Engagement

The Kurita Group positions its customers, business partners, employees, shareholders and investors, and local communities as its stakeholders. It takes initiatives on stakeholder engagement to understand each stakeholder's expectations, concerns, requests, and other thoughts about Kurita and reflect them in its management.

Fundamental Activity Guidelines

Stakeholder	Purpose	Approach
Customers	Providing solutions through products and services and winning trust from customers	· Suggest and provide solutions to issues of individual customers, by communicating with them through proposal activities, and check how the solutions are evaluated. · Conduct customer surveys to better grasp issues facing the Kurita Group.
Business partners	Fair trade and considerations for society, human rights, and environmental aspects in supply chain	· Check what individual business partners expect and how they evaluate us, by communicating with them in procurement activities. · Conduct questionnaires of business partners to check expectations and evaluations by business partners as a whole and identify the Kurita Group's issues. · Set up a helpline for business partners as a contact for anonymous consultations and whistleblowing.
Employees	Respect for human rights, improvement of job satisfaction, and human resource development	· Check employees' opinions through a self-reporting system or the similar system. · Check needs and effects of employee capability development by providing human resource development training, supporting female employees in their career development, and taking other measures. · Conduct employee happiness and well-being surveys to identify any issues. · Set up a contact for compliance consultation and one for whistleblowing to accept anonymous consultations and whistleblowing.
Shareholders and investors	Dialogues with shareholders and investors for mutual understanding with them and winning support from them	· The president and the director in charge have dialogues with shareholders and stakeholders in financial results briefing, briefing sessions for shareholders, ones for investors, conferences hosted by securities companies, and IR roadshows. · People who are exclusively in charge of IR have dialogues with individual securities analysts and institutional investors through meetings and conference calls. · Disclose information appropriately and in a timely manner via integrated reports, website, and other media.

Stakeholder	Purpose	Approach
Local communities	Contribution to local communities	・Carry out activities related to nature conservation, welfare, disaster control, and other issues in areas where our business bases are located, and provide support for affected areas in the event of a disaster. ・Contribute to the Kurita Water and Environment Foundation, which was established to contribute to advancing science and technologies related to water and the environment. ・Check expectations and evaluations by local communities in light of presence/ absence of complaints and other feedback to each business location and their contents. ・Through participation in the WRC*, work to preserve water resources in water-stressed basins all over the world.

* Please refer to “Participation in Water Resilience Coalition” for more details about the WRC

Examination of CSR Initiatives

Based on the following information, we examine our CSR initiatives to confirm that they are making progress toward achievement of goals.

- Results of questionnaire and other surveys (of customers, business partners, and employees)
- Results of assessment by major ESG investment evaluation organizations and whether Kurita stock has been selected as an ESG Stock
- Number of complaints lodged against, and acknowledgements given by the local community to, Kurita at each business location
- Achievement status of plans in the external organization to which we belong

FY2021 Activities

Stakeholder	Major Approach	Results	Issues Going Forward
Customers	・Responded to CSR surveys from customers and supplier evaluation organizations. ・Conducted a customer intimacy survey for customers in Japan, using NPS®* as the main evaluation tool.	・Responded to all surveys. Continued disclosure information to supplier evaluation organizations, improving our evaluation. ・Received responses from 246 companies and 459 people. Shared the results with the relevant departments.	・Strengthen cooperation among related departments to ensure appropriate responses to CSR surveys. ・Consider expanding the customer intimacy survey to include customers of overseas affiliates.

Stakeholder	Major Approach	Results	Issues Going Forward
Business partners	・Conducted a questionnaire survey of business partners, expanding the scope of the survey to include business partners of affiliates in Japan. ・Disseminated the Kurita Group's CSR Procurement Guidelines to 641 business partners in Japan and overseas (68% of the total amount of orders placed in fiscal 2020). Of these, 260 business partners (57% of the total amount of orders placed in fiscal 2020) conducted self-assessments.	・Working to identify, investigate, and rectify problems from the perspective of our business partners. ・Identified no clear risks from the self-assessment results.	・Conduct thorough internal education and other measures to eliminate any problems identified by our business partners. ・Improve the reliability of self-assessment results by business partners in order to identify real risks in the supply chain.
Employees	・Conducted a compliance behavior survey of all Kurita Group employees and dispatch staff. ・Conducted a "happiness and well-being survey" of employees of the Company and Group companies in Japan.	・Identified the risks and results of compliance activities at each company and division. ・Identified the factors behind employee well-being and the impact of working from home.	・Based on the results of the survey, formulate measures to enhance employee job satisfaction and energize the organization.
Shareholders and investors	・Improved ESG information disclosure, responded to surveys from ESG evaluation organizations, held meetings with ESG investors.	・Continued to be included in the leading ESG indexes. ・Established opportunities for business units to learn about the evaluation mechanisms of ESG evaluation organizations and CDP; promoted their use in business activities.	・Continuously improve CSR initiatives and information disclosure in light of the trend toward standardization of ESG information disclosure standards. ・Continue providing opportunities for business units to learn about the mechanisms and results of evaluations by ESG evaluation organizations and CDP.

Stakeholder	Major Approach	Results	Issues Going Forward
Local communities	・Confirmed whether there were complaints from local residents at each Kurita Group company site.	・There were no thanks or complaints.	・Continue to confirm the opinions of local residents near business sites. ・Through the activities of the WRC and other organizations, obtain a wide range of opinions on issues related to water resources.

* NPS® is the registered trademark or service mark of Bain & Company, Fred Reichheld, and Satmetrix Systems.

Information Disclosure

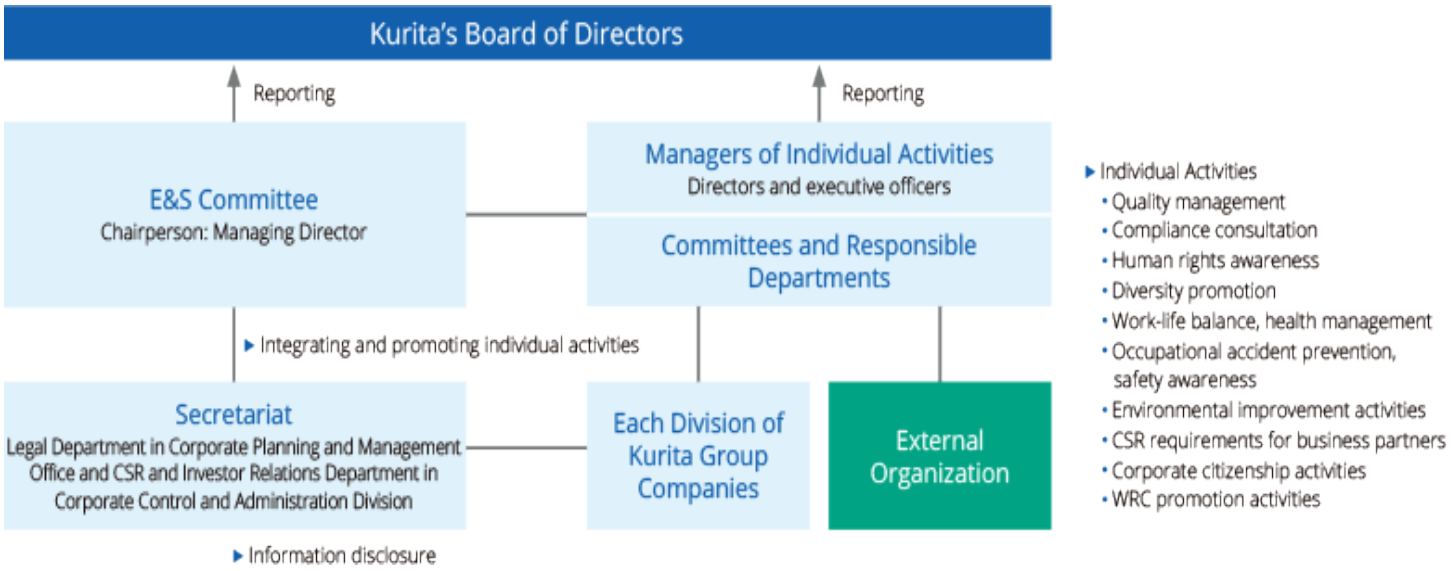
We disclose our CSR-related information to our stakeholders by the following methods.

- Disclosing reports created by referring to international standards on information disclosure
- Answering questionnaire and other surveys conducted by research institutions and other organizations
- Answering questions and surveys from customers, shareholders, and investors

Promotion System and PDCA

Promotion System

The Kurita Group positions the themes stipulated in its CSR Policy as material issues and makes group-wide efforts to work on activities related to the fields of 1) corporate governance, 2) product and service liability, 3) fair operating practices, 4) respect for human rights, 5) appropriate labor practices, 6) environmental improvement, and 7) corporate citizenship. The chairperson of the E&S Committee, who is a director of Kurita, is responsible for integrating and promoting the individual activities, with a director or an executive officer of Kurita assigned for each one of the activities as the responsible manager.



PDCA

For each of the individual activities, we formulate the Group's common medium-term targets and annual action plans, and Kurita and Group companies manage activity targets. Determination of the action plan and evaluation of results of actions are made by Kurita's Board of Directors.

	Plan	Do	Check	Action
Directors of Kurita	▸ Formulate medium-term management plans/ business plans by reflecting group-wide tasks related to CSR initiatives.		▸ Check and evaluate results of individual activities on CSR. ▸ Recognize and accept stakeholders' expectations, concerns, and requests.	
E&S Committee	▸ Identify group-wide tasks related to CSR initiatives and formulate the CSR Policy and KPIs.	▸ Check the progress of individual activities on CSR. ▸ Disclosure information related to CSR. ▸ Have dialogues with stakeholders.	▸ Consolidate the results of individual activities on CSR. ▸ Evaluate and analyze the results of individual activities on CSR based on stakeholders' expectations and concerns.	▸ Review CSR Policy and CSR-related KPIs. ▸ Outcomes of activities and improvement measures reported to Board of Directors
Various committees, each division of Kurita, each Group company	▸ Implement measures in light of tasks related to individual activities on CSR and medium-term management plan/business plan.	▸ Carry out the individual activities on CSR. ▸ Report the results of individual activities on CSR to the E&S Committee. ▸ Have dialogues with stakeholders.	▸ Evaluate and analyze the results of individual activities on CSR. ▸ Check stakeholders' expectations and concerns.	▸ Review measures on individual activities on CSR
External Organization	▸ Actively participate in the planning process of external organizations	▸ Carry out activities in cooperation with external organizations	▸ Confirm that the activity results of external organizations match the direction of the Kurita Group's CSR policy	▸ If necessary, reexamine the external organizations in which the Kurita Group participates

External Evaluation

Inclusion in ESG Indexes

FTSE4Good

FTSE4Good Index Series

This index was developed by FTSE Russell, a global index provider based in the United Kingdom. The FTSE4Good Index Series is designed to promote investment in companies that meet global environmental, social, and governance (ESG) standards.

Official website

FTSE Blossom Japan	**FTSE Blossom Japan Index** This index was developed by FTSE Russel. The FTSE Blossom Japan Index is designed to measure the performance of Japanese companies that are making outstanding efforts on ESG. Official website
2021 MSCI ESG Leaders Indexes Constituent	**MSCI ACWI ESG Leaders Index** This index was developed by MSCI, a global index provider based in the United States. The index is composed of companies with excellent ESG evaluations, selected from a parent index (the MSCI ACWI Index), which covers companies in 23 advanced countries and 26 emerging countries.
	MSCI World ESG Leaders Index This index was developed by MSCI. The index is composed of companies with excellent ESG evaluations, selected from a parent index (the MSCI Index), which covers companies in 23 advanced countries.
2021 CONSTITUENT MSCI JAPAN ESG SELECT LEADERS INDEX	**MSCI Japan ESG Select Leaders Index** This index was developed by MSCI. The index is composed of companies with excellent ESG evaluations, selected from among the constituent stocks of the MSCI Japan IMI Top 700 Index without any bias in terms of industry.
2021 CONSTITUENT MSCI JAPAN EMPOWERING WOMEN INDEX (WIN)	**The MSCI Japan Empowering Women Index (WIN)** This index was developed by MSCI. It is composed of companies in the MSCI IMI Top 500 Index that have been selected based on their data regarding employment of women, disclosed under the Act on Promotion of Women's Participation and Advancement in the Workplace and corporate policies regarding gender diversity.
2021 Sompo Sustainability Index	**SOMPO Sustainability Index** This index was developed by Sompo Asset Management Co., Ltd., a Japanese asset management company. The index is composed of independently selected stocks, emphasizing their ESG evaluation based on the Buna-no-Mori Environmental Questionnaire (environmental assessment) conducted by Sompo Risk Management Inc. and the IntegreX Survey (social and corporate governance assessments) conducted by Integrex Inc.

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Evaluation by ESG Rating Organization

Corporate ESG Performance Prime RATED BY ISS ESG	**ISS-ESG** Certified as a “Prime” company in the ESG ratings of ISS ESG, the Responsible Investment division of US-based proxy advisory firm Institutional Shareholder Services. Prime status indicates that Kurita exceeded industry-specific rating criteria. Official website

Evaluation by Supplier Evaluation Organization

SILVER 2021 ecovadis Sustainability Rating	**EcoVadis** Awarded “Silver Medal” for the top 25% of companies in the manufacturing sector by EcoVadis, a French firm that rates the sustainable procurement capabilities of suppliers from a CSR perspective.

Priority Themes: Basic Themes

The Kurita Group's Basic Themes

The Kurita Group has positioned safety and quality, compliance, human rights, and occupational health and safety as basic themes for its initiatives related to CSR, and is working to prevent damage to the Group's value.

Provide Highly Safe Services and Products

We introduce the Kurita Group's product quality improvement activities.

Conduct Fair Business Activities

We introduce the Kurita Group's compliance activities.

Respect Human Rights

We introduce the Kurita Group's initiatives related to respect for human rights and health and safety.

Provide Highly Safe Services and Products

Improving Quality

In order for the Kurita Group to continue its business and grow as a company, it must maintain its status as a trusted supplier for its customers. To gain the trust of our customers, we believe we must consider the impact on customers of the actual products and services that we supply, which is to say, we must develop products and services that consider safety, health, and environmental impact throughout the product lifecycle, and also ensure their stable manufacture as well as safe shipment and delivery.
The Kurita Group will strive to maintain the trust of society by continuing to develop and provide products and services that are considerate of safety, health, and the environment.

Contribution to Achieving the SDGs

Basic Policy

The Kurita Group has established the “Kurita Group Product Quality Policy” and continuously promotes quality improvement activities based on this policy in an effort to raise the quality of the products and services it provides to customers.
The basis of this policy is the “Kurita Group will speedily provide our customers with products and services that can meet their quality expectations, thereby winning unshakable trust.” To provide products and services that are trusted by customers and to fulfill our social responsibilities in conducting our business, we have established the policy with the goal of conducting quality activities that take into account observance of laws and regulations, safety and quality, and environmental impact.
To improve quality, each Group company has built and operates a quality management system based on the policy. In addition, we constantly monitor the current quality level through self-inspections, surveys by the person in charge of promoting quality improvement activities or their designated person, and feedback of opinions and requirements from customers. Improvements are made each time an issue is recognized.

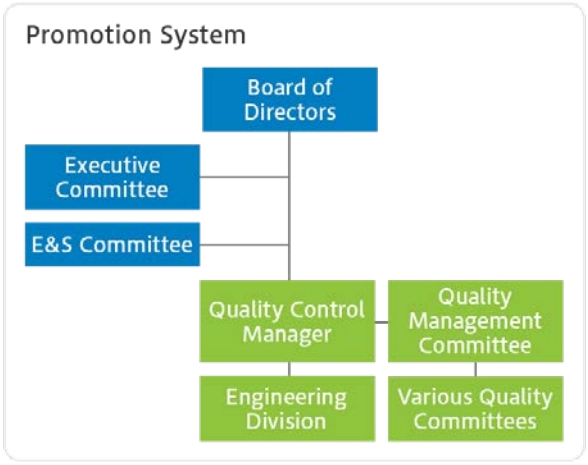
Kurita Group Product Quality Policy

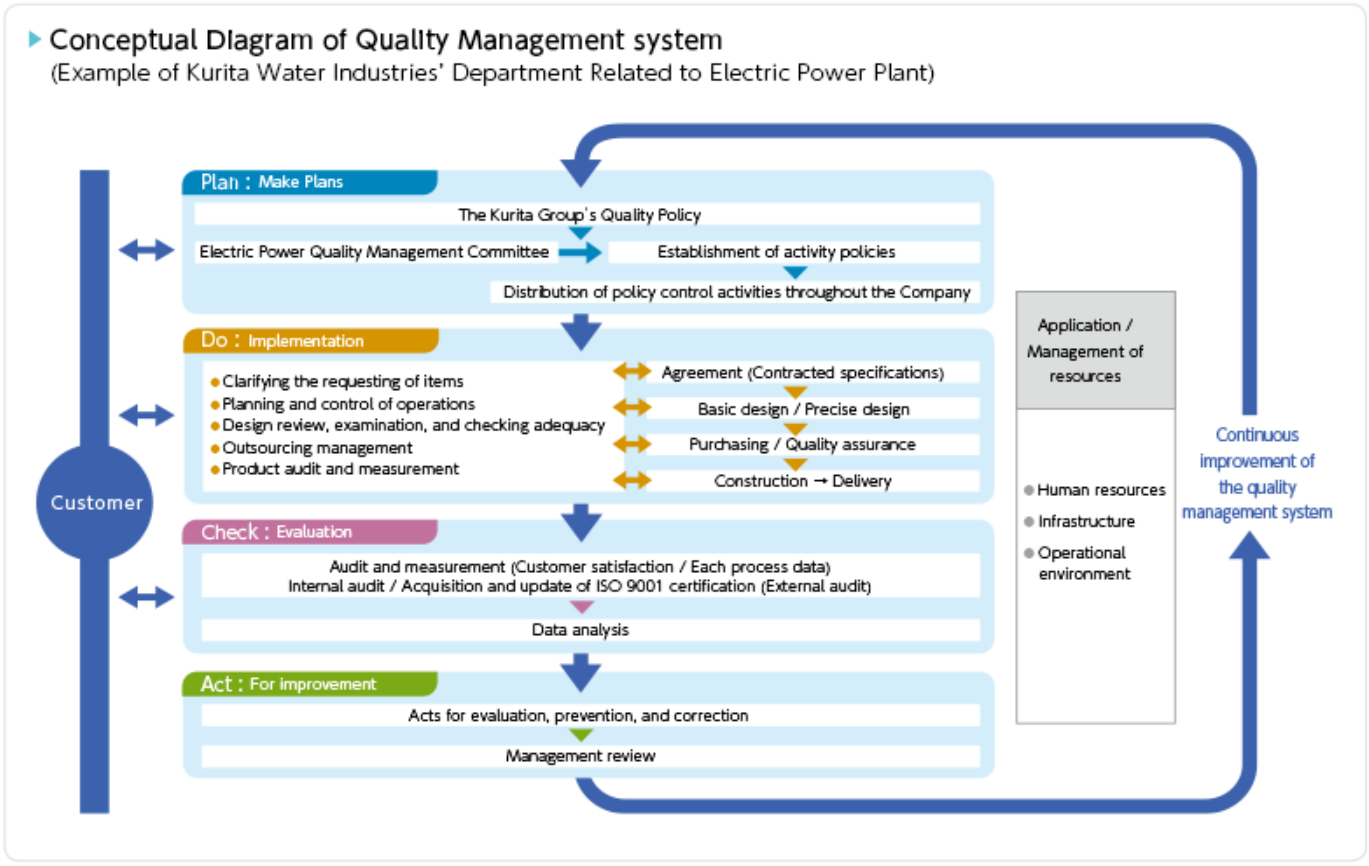
Kurita Group Product Quality Policy

- We will establish a quality management system suitable for the business environment and continue improvement activities to enhance customer satisfaction.
- We will actively disclose appropriate information concerning products and services and provide safe and secure products and services.
- We will determine quality control processes and criteria, properly operate them, regularly confirm the operation status and thereby secure the quality of products and services.
- We will promote the development and improvement of products and services considering environmental impact and contribute to environmental preservation.

Promotion System

The Kurita Group has established a quality management system that includes the quality management divisions of Group companies, the Company's Quality Management Committee, and other quality management committees, including those at Group companies. The Quality Control Manager oversees these committees, and determines and assesses quality outcome goals and progress toward process goals, reporting the results to the Board of Directors once a year.





Targets and Achievements

The Kurita Group's targets for the fiscal 2023 and achievements for the fiscal 2021 for the theme are as shown below.

	Targets for FY2023	Achievements in FY2021
Rate of safety evaluations for newly developed products	100%	100%
Rate of front-line employee participation in regular safety training directly related to products and services	100%	100%

Main Initiatives

Safety Evaluation of Newly Developed Products

The Company has a rule that, when it uses a new chemical substance in product development, it assesses the risk the chemical substance poses to the environment and health based on internal rules. In addition, when we manufacture a product, we submit mandatory notifications and reports following laws and regulations, including the Industrial Safety and Health Act, the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., and the Fire Service Act.

Sharing Information Related to Product Safety

To ensure the appropriate provision of information to customers, Kurita Water Industries uses GHS*1-compliant SDS*2 and labels to inform them of applicable laws and hazards of the product and provide other information. We also issue Yellow Cards*3 and affix Yellow Card-compliant labels to containers*4 to ensure transportation safety.

*1 GHS stands for the Globally Harmonized System of Classification and Labeling of Chemicals. Under this system, physical hazards and health hazards/environmental hazards of chemicals are classified based on international standards, and products classified as hazardous ones are stated on SDSs and indicated on the containers. GHS has been introduced in many countries in accordance with a recommendation by the United Nations. In Japan, compliance with GHS is required by the Industrial Safety and Health Act.

*2 SDS (Safety Data Sheet), is a sheet on which a product's hazards, applicable laws, how to handle and transport the product, emergency measures, and other information are presented in a specific format. The Company creates SDSs for all of its products, commodities, and developed articles and provides them to its customers.

*3 A Yellow Card is a yellow-colored card showing information about procedures for handling an accident as a safety measure for transportation of a chemical. This card is taken along by the transport operator when a chemical is transported on a tanker truck or the similar vehicle.

*4 A Yellow Card cannot be used in the case of consolidated transport or transport of small lot products. Therefore, in such a case, the Company affixes a label indicating safety information (United Nations Number and Emergency Response Guide Number of the chemical name) on each container.

Clarifying Customer Evaluations with NPS® Surveys

The Company conducts an NPS® survey and utilizes the findings when creating sales and marketing strategy and improving business processes. In fiscal 2021, the survey was administered to customers in Japan, and responses were obtained from 246 companies and 459 individuals. The Company intends to continue conducting the survey with the added inclusion of overseas customers.

* NPS® is the registered trademark or service mark of Bain & Company, Fred Reichheld, and Satmetrix Systems.

Conducting CS Surveys

The Company's Engineering Group continuously conducts customer satisfaction (CS) surveys of all customers who have purchased large water treatment plants. Based on the results of the survey, the Group continually works to revise and improve various items, including its operations procedure manual and specification sheets.

Number of Surveys Conducted		Question Items
FY2019	14	8 items, including specification, quality management, and construction
FY2020	12	
FY2021	10	

Providing Training to Improve Knowledge and Skills

In order to raise the quality of services provided to customers, the Company runs training courses to improve the expertise and skills of all Kurita Group employees. The courses comprise units on a range of topics, including basic knowledge about water treatment chemicals, technical training about water and wastewater treatment, safety and legal training, communication skills and problem-solving.

Number of Participants in Training (Fiscal Year Totals)	
FY2019	1,113
FY2020	1,243
FY2021	1,288

Technical training session

Safety Training

The Company runs a product safety e-learning course for Kurita Group employees. The course is designed to deepen employee understanding about product safety.

Number of Participants	FY2020	FY2021
Kurita Water Industries, Group companies in Japan	4,320	5,789
Group companies overseas	-	2,454
Total	4,320	8,243

Response to Problems

Problems that arise prior to installation at customers and complaints received from customers are entered in the in-house “problem information” database and that information is shared widely throughout the Company.

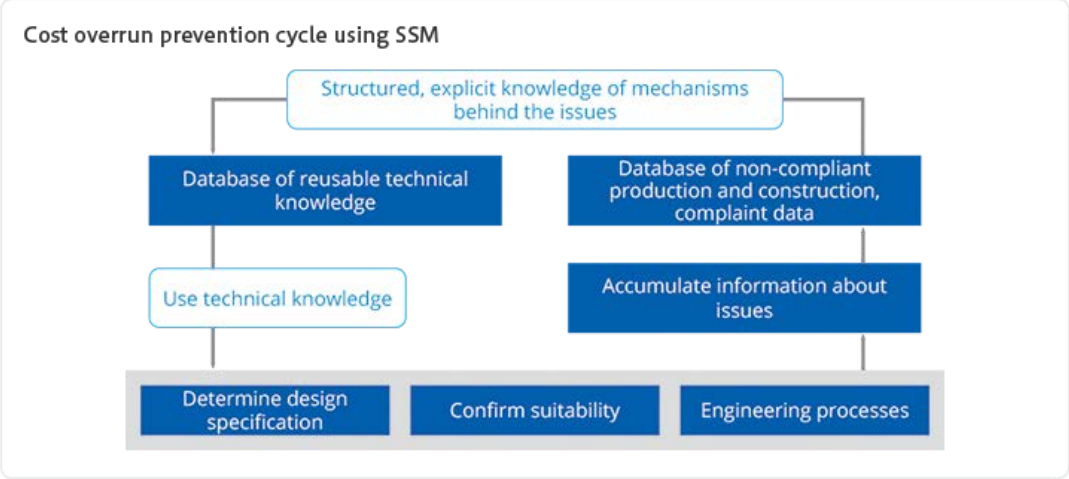
Quality Survey Conducted by External Institution

The Company engaged an external institution to conduct a quality survey in fiscal 2021 covering seven Group companies in Japan involved in production. Based on the survey’s findings, quality-related issues were identified and improvement measures formulated as we continue to raise quality levels at domestic Group companies.

Introducing SSM to Shift from Recurrence Prevention to Simple Prevention

To improve the quality of product design, Kurita became the first engineering company in Japan to introduce a Stress-Strength Model (SSM)* to prevent flaws and stop issues from reoccurring. Building and leveraging the SSM framework will help curb the occurrence of defects.
In fiscal 2021, we started using SSM in the project order approval process, as well as in the design process, and this served to reduce the occurrence of defects. We plan to extend the use of SSM to Group companies in Japan and overseas to strengthen product quality management across the Group.

* Developed by Yasuhiko Tamura of the Institute of Structured Knowledge Yielding Co., Ltd., SSM is a quality management approach mainly used in the manufacturing sector.



Number of Serious Accidents in the Kurita Group Involving Products and Services	
FY2019	0
FY2020	0
FY2021	0

Acquisition of ISO 9001 Certification

To encourage continuous quality improvements, the Kurita Group is promoting acquisition of ISO 9001 certification at companies that have production processes involving procurement, manufacture, and processing to provide products and services. The status of certifications acquired as of March 2021 is as follows.
For data such as overall acquisition rate for the entire Group, refer to presented under ESG Data-Social.

ESG Data

List of ISO 9001 Certified Bases (As of March 2021)

- Kurita Water Industries Ltd.
  (Department related to electric power plant)
- Kurita Chemical Manufacturing Ltd.
- Kurita Analysis Service Co. Ltd.
- Kurita Meiki Ltd.
- Kuritec Service Co. Ltd.*1
- Kuritaz Co., Ltd.
- Kurita Engineering Co., Ltd.*2
- Kurita Creation Co., Ltd.
- Land Solution Inc.
  (Environmental Management Department Ⅲ)
- Kurita-GK Chemical Co.,Ltd.
- Kurita (Taiwan) Co.,Ltd.
- Kurita Water Industries (Dalian) Co.,Ltd.
- Kurita Water Industries (Jiangyin) Co.,Ltd.
- Hansu Co.,Ltd.
- Kurita Europe GmbH (Ludwigshafen)
- Kurita Iberica SL
- Kurita Turkey Kimya A.S.
- Kurita Middle East FZE
- Kurita do Brasil LTDA.
- Kurita Water Technology (Taiwan) CO.,LTD.
- Kurita Water Industries (Suzhou) Ltd.
- Hansu Technical Service Ltd.
- Kurita (Singapore) Pte.Ltd.
- Kurita Water (Malaysia) Sdn.Bhd.
- PT Kurita Indonesia
- Kurita America Inc.
- Kurita UK Ltd.

*1 Includes San-ei Industries Co., Ltd., Nippon Fine Co., Ltd., and Aoi Industries Co., Ltd.
*2 Includes Miyoshi Industries Co., Ltd. Kurita Engineering Co., Ltd. merged with the Company on April 1, 2021.

CSR Requirements for Suppliers

The Kurita Group considers it vital to obtain cooperation from suppliers in order to provide customers with safe, high quality products and services. To this end, we have established the Kurita Group CSR Procurement Guidelines, and we have asked suppliers to comply with laws and regulations regarding product safety, provide high quality products and services to the Kurita Group, and provide appropriate information. In particular, we ask major suppliers to conduct a self-evaluation based on the guideline and to implement improvement measures.

The Kurita Group CSR Procurement Guidelines

Conduct Fair Business Activities

Compliance

The Kurita Group is involved with solving many customers' problems in areas around the world. This is proof of the trust that customers in various countries have placed in the Group, and it entails a heavy responsibility. To ensure that we continue to be highly rated as a company by customers, suppliers, employees, shareholders, and local communities throughout the world, we recognize that it is more important than ever to conduct business fairly at all times in every country where we operate. All Kurita Group officers and employees observe the stance stated in our CSR Policy, "Maintain fair and transparent trade based on free competition. Maintain sound relationships with politics and administration," and are committed to fulfilling the Group's responsibilities for the future.

Contribution to Achieving the SDGs

Basic Policy

All Kurita Group officers and employees share fairness, transparency, integrity, safety, and compatibility as five core values, and the Kurita Group Code of Conduct has been created to set out basic guidelines for judgment and conduct for how all Kurita Group officers and employees should conduct themselves and what conduct is prohibited. The Code has been translated into 18 languages so that all Kurita Group officers and employees throughout the world can understand it, and it is also disclosed on the Company website. The Kurita Group's basic approach toward compliance is to implement this code of conduct by promoting deeper understanding of the code within the organization, reviewing the compliance guidelines formulated at each division and Group company, and promoting awareness of them throughout the organization.

The Kurita Group Code of Conduct

▸ Core Values

Fairness	To be flexible and competitive company that can survive in the market environment, we will conduct business activities in a fair manner, moving away from old values and ideas that are no longer appropriate.
Trans-parency	To become a global corporate group, we will proactively adopt the rules of international society and conduct business activities openly.
Integrity	We will conduct business activities in a sincere manner, while making strenuous efforts to meet social expectations and further enhance our reputation as a company true to its word.
Safety	As a company that leads the world with its technologies, we will provide our customers with high-quality products and services while conducting our business activities in such a way that prioritizes the minimization of negative impacts that technologies may have on the lives and properties of people.
Compati-bility	As a company contributing to the realization of a sustainable society, we will conduct business activities in such a manner as to ensure the compatibility of economic growth and environmental protection, so that we can help keep the global environment in good shape for the next generation.

The Kurita Group has formulated the following various policies to ensure the promotion of fair business practices throughout the entire Group, and they are now being applied in Kurita Group companies.

Kurita Group Anti-Bribery Policy and Group Guideline on Anti-Bribery

The Kurita Group formulated its Anti-Bribery Policy in order to prevent bribery and promote fair business activities within the Group. This policy defines basic items related to the Group's bribery prevention systems. Under this policy, the Company and each Group company defines items to be complied with as rules and works on the reduction of the risk of the occurrence of bribery. The Group Guideline on Anti-Bribery was created in fiscal 2021 and establishes more specific rules on preventing bribery. These guidelines were communicated to all officers and employees in the Kurita Group and training on the new guidelines was provided through an e-learning program.

The Kurita Group Anti-Bribery Policy

The Kurita Group Antitrust Policy and Group Guideline on Antitrust

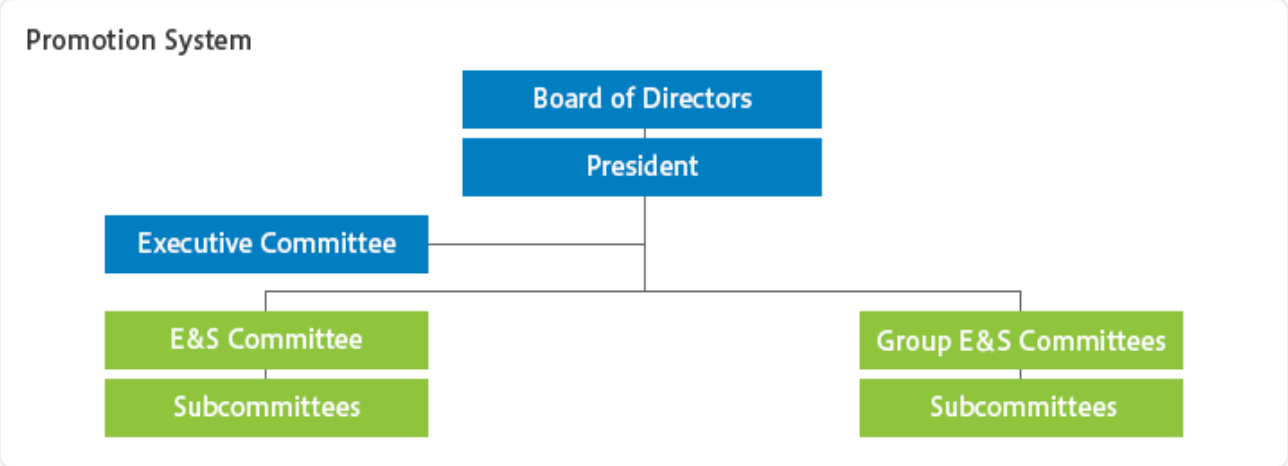
The Kurita Group has established the Kurita Group Antitrust Policy to ensure that the Group conducts fair transactions and to prevent its officers and employees from violating antitrust laws in countries around the world. The policy sets out basic items regarding observing local antitrust laws and antimonopoly laws, and associated regulations and so forth in different countries and regions. In addition, the Group Guideline on Antitrust was formulated in fiscal 2021. It stipulates rules based on the respective business characteristics of the Company and Kurita Group companies.

The Kurita Group Antitrust Policy

These policies have been translated into 16 languages so that all Kurita Group officers and employees throughout the world can understand them.

Promotion System

The Kurita Group has established the E&S Committee and the Group E&S Committee as organizations to oversee compliance activities. Both committees are chaired by a Managing Director of the Company, and the Group E&S Committee's members are representatives of Group companies. The committees are tasked with deciding polices and key measures related to compliance activities, which are conveyed to all employees through subcommittees in each headquarters division and Group company. The E&S Committee also manages the activities and reports the activity results once a year to the Company's Board of Directors, which evaluates the activity results.



Targets and Achievements

The Kurita Group's target for the theme in fiscal 2023 and its achievement in fiscal 2021 are as shown below.

	Target for FY2023	Achievement in FY2021
Rate of participation in compliance-related training	100%	100%

* Courses in fiscal 2021 were targeted at officers and employees of overseas Group companies.

Main Initiatives

Preventing Problems from Occurring

The Kurita Group has established targets and measures to be taken for improvement of the risk of legal or regulatory infringements, and is working to prevent compliance-related problems from occurring. Specifically, after creating a "Non-Compliance Risk Map" consisting of 60 items and tailored to the business characteristics of each organization and company, we have identified key themes to be addressed by conducting a risk assessment based on the results of a Compliance Behavior Survey from the previous fiscal year. The main key theme for fiscal 2021 was preventing inappropriate accounting.

Compliance Behavior Survey

The Kurita Group conducts the Compliance Behavior Survey for Kurita Group employees and dispatch staff each year in order to clarify the impact of compliance activities and any problems, and to identify latent legal and regulatory infringement risks to help reduce risks going forward. The survey results were reported back to the personnel in charge of compliance in each organization and Group company.

Status of Compliance Behavior Survey Implementation

	FY2019	FY2020	FY2021
Number of people surveyed	6,944	7,054	7,503
Number of respondents	6,867	6,988	7,413
Response rate (%)	98.9	99.1	98.8

Whistle-Blowing and Consultation Desk

The Kurita Group seeks to enable employees to work in the Group with peace of mind. To this end, we have established the Kurita Group Code of Conduct, as well as consultation desks within each company and outside organizations where people can report or consult if they observe behavior that breaks internal company rules or behavior that they think might be breaking the rules, or if they have business partners who may not be following the rules. These consultation desks are provided not only for Kurita Group employees, but also for dispatch staff sent to work in the Kurita Group and personnel at our customers and so forth. The Kurita Group strives to protect persons who consult or make reports and to achieve early detection of dishonest practices, and also operates the Kurita Global Helpline, which allows the employees of overseas Group companies to make reports to a consultation desk.

Status of Consultation Desk Usage (Cases)

	FY2019	FY2020	FY2021
Japan	27	24	21
Overseas	4	3	2
Total	31	27	23

Compliance Training for Management

The Company conducts ongoing compliance training for its management team and those of its domestic Group companies.

Anti-Bribery and Anti-Corruption Training

The Kurita Group provided anti-bribery and anti-corruption e-learning training for officers and employees of overseas Group companies in fiscal 2021. The participation rate was 100%. The training is designed to deepen understanding about points that should be observed by all officers and employees in accordance with the Kurita Group Anti-Bribery Policy, as well as to promote fair business activities.

CSR Requirements for Suppliers

The Kurita Group considers it vital to obtain cooperation from suppliers in order to conduct fair business across the entire supply chain. We have established the Kurita Group CSR Procurement Guidelines, and we have asked suppliers to observe laws and social norms, such as conducting fair business and prohibiting corruption and bribery, and to provide appropriate information. In particular, we ask major suppliers to conduct a self-evaluation based on the guideline and to implement improvement measures.

The Kurita Group CSR Procurement Guidelines

Respect Human Rights

Human Rights

The Kurita Group has operations in over 30 countries, where it encounters diverse working environments, business customs, and trading practices. It is important to approach business with a respect for stakeholders' human rights. Therefore, recognizing that human rights are a priority issue for management, the Kurita Group promotes respect for human rights among all stakeholders, including employees, in the countries and regions where it conducts business. The Group recognizes that these initiatives need to be thoroughly implemented both internally and throughout the supply chain. We therefore request our business partners to consider human rights and require their understanding and cooperation, and we confirm that human rights are being respected through periodic monitoring surveys.

Contribution to Achieving the SDGs

Basic Concept of Human Rights

The Kurita Group Code of Conduct presents a model for specific practice of correct conduct based on observation of laws and regulations and on social ethics. The code stipulates that all officers and employees should respect and observe human rights in their conduct. Furthermore, we have also established the Kurita Group Human Rights Policy to complement the corporate philosophy and the Kurita Group Code of Conduct.

The Kurita Group Human Rights Policy

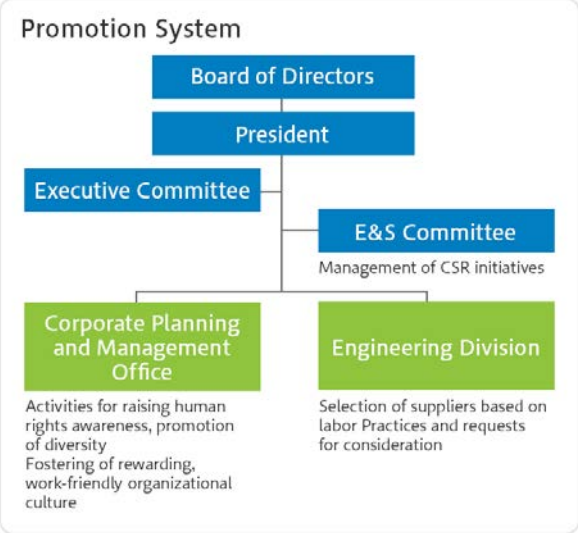
Policy

This policy applies to every directors and employees of Kurita Water Industries Ltd. and its consolidated subsidiaries. Moreover, the Kurita Group will encourage its business partners and other related parties on which it can have an influence to implement this policy.

- The Kurita Group will respect the human rights as set out in the International Bill of Human Rights and the fundamental rights and principles as set out in the Declaration on Fundamental Principles and Rights at Work. In addition, we will promote efforts to respect human rights in accordance with the Guiding Principles on Business and Human Rights stipulated by the UN.
- The Kurita Group will comply with applicable laws and regulations of each country and region in which it performs its business activities. In the case of any conflict between the internationally recognized human rights and any law, regulation or rule of any country or region, Kurita Group will search for a way to respect the principles of internationally recognized human rights.
- The Kurita Group will establish a mechanism for human rights due diligence to identify any adverse human rights impacts and seek to prevent or mitigate such impact.
- In the event of any adverse human rights impacts or its revealed involvement in such adverse human rights impacts, the Kurita Group will endeavor to provide a remedy to those affected through proper proceedings.
- The Kurita Group will publicize this policy. Furthermore, it will provide appropriate education and training to ensure the effectiveness of this policy.
- The Kurita Group will consult with the relevant stakeholders on responses regarding potential and actual impacts on human rights.
- The Kurita Group will report the progress of its efforts to respect human rights in its corporate social responsibility (CSR) reports and on its website.

Promotion System

The Kurita Group's promotion system for human rights initiatives is shown on the right. The Corporate Planning and Management Office undertakes human rights awareness-raising activities, mainly for employees, and manages initiatives for fostering a rewarding, work-friendly organizational culture, while the Engineering Division is in charge of requesting suppliers to respect human rights.



Targets and Achievements

The Kurita Group's target for the theme in fiscal 2023 and its achievement in fiscal 2021 are as shown below.

	Target for FY2023	Achievement in FY2021
Rate of participation in human rights-related training	100%	100%

* Courses in fiscal 2021 were targeted at employees of the Kurita Group.

Main Initiatives

Formulation of the Kurita Group Personnel Management Guidelines

The Kurita Group has put in place the Kurita Group Personnel Management Guidelines with the aim of managing personnel based on a common approach throughout the Group. The guidelines set out basic approaches to personnel management such as management development, sincere employment, and respect for diversity. The Group manages personnel in accordance with the guidelines, integrating them with the unique personnel management strategies of each company based on its individual circumstances, such as country, region, culture, and company culture.

Human Rights Awareness Training

Kurita Water Industries provides ongoing "Human Rights Training Programs" to raise employees' awareness of human rights. We also conducted human rights awareness raising training for the management of the Company and its domestic Group companies, aiming to raise management's awareness of the human rights, which is becoming increasingly important in corporate management, and to promote initiatives with employees.

Number of Participants in Human Rights Awareness Training

	FY2019	FY2020	FY2021
Theme	LGBT	Harassment	Anger management
Number of participants	1,947	1,714	2,095

Fostering a Corporate Culture that Embraces and Capitalizes on Diversity

To further strengthen the Group, in October 2020, we established a dedicated group to accelerate progress on diversity. The group works to foster a culture and develop mechanisms and systems for generating innovation from diverse perspectives and backgrounds. As a part of these efforts, training on the concept of unconscious bias was held in June 2021 for the Company's domestic sales divisions

Dialogue with Employees

Since October 2016 the Company has held “Town Hall Meetings” where President Kadota and employees can speak directly with each other (40 meetings as of September 2021). In fiscal 2021, because employees worked primarily from home due to the coronavirus, online meetings were held with employees in Japan and overseas on topics such as changes in the Kurita Group caused by the pandemic and Project Acorn, a global project to develop RO membrane chemicals and services. In addition, messages were sent to Kurita Group employees from the president and other executives and managers using email, video and other media.

Dialogue with the Labor Union

In addition to securing the Company’s sound growth and continuation, Kurita Water Industries and the labor union maintain a sound and fair relationship. Labor and management each do their utmost to improve the economic and social standing of union members and to maintain and improve working conditions. Specifically, the Company and the Labor Union have concluded a labor agreement, share management information and exchange opinions at management consultation meetings and so forth, and promote dialogue.

CSR Requirements of Suppliers

The Kurita Group considers it vital to obtain cooperation from suppliers in order to ensure respect for human rights across the entire supply chain. We have established the Kurita Group CSR Procurement Guidelines, and we have asked suppliers to respect basic human rights, such as prohibiting forced labor and child labor and eliminating discrimination, and to provide appropriate information. In particular, we ask major suppliers to conduct a self-evaluation based on the guideline and to implement improvement measures.

The Kurita Group CSR Procurement Guidelines

Status of Labor Issues and Response

Number of Consultations Regarding Discrimination

The number of consultations from individuals regarding instances of discrimination (including harassment) in the Kurita Group is as follows. The human resource and legal affairs divisions conduct an investigation of the facts while maintaining the anonymity of the person making the complaint. If the facts are confirmed, guidance and warnings are issued to the persons concerned.

	FY2019	FY2020	FY2021
Kurita Water Industries	2	5	4
Domestic subsidiaries and affiliated companies	9	4	10
Overseas subsidiaries and affiliated companies	4	0	2
Total	15	9	16

Evaluation of Employee Human Rights Risk

The results of human rights risk evaluations at Kurita Water Industries are as follows.

		FY2019	FY2020	FY2021
Child Labor	Number of business sites with significant risks regarding child labor	0	0	0
	Number of business sites with significant risk of hazardous work undertaken by people aged under 18	0	0	0
Forced Labor	Number of business sites with significant risks regarding forced labor	0	0	0

Securing Diverse Human Resources

Employment of Personnel with Disabilities

Kurita Water Industries and Group companies in Japan work to attract and retain diverse personnel by providing a wide range of employment opportunities for people with disabilities. In April 2013, With Kurita Ltd. was established with the goal of securing employment opportunities for people with disabilities. As of May of the same year, With Kurita has been approved as a special subsidiary company under the Act on Employment Promotion, etc. of Persons with Disabilities. In fiscal 2021, the applicable scope of the Group increased by one company, and we established a new With Kurita office at the Company's Osaka Office.

Status of Employment of Personnel with Disabilities at Kurita Water Industries and Group companies in Japan*

	FY2019	FY2020	FY2021
Number of people employed	45.5	43.5	68.0
Employment rate (%)	2.3	2.2	2.4

* The number of employees with disabilities in group companies deemed to be subject to group application under the Employment Rate System for Persons with Disabilities.

Employment of Foreign Nationals

Kurita Water Industries seeks to recruit diverse human resources without regard to nationality. We employ foreign nationals, mainly from among overseas students studying in Japan.

Status of Employment of Foreign Nationals at Kurita Water Industries

	FY2019	FY2020	FY2021
Number of people employed	19	16	19

Securing Employment Opportunities for Senior Personnel

In conjunction with the enforcement of the amended Act on Stabilization of Employment of Elderly Persons from 2006, Kurita Water Industries has established a system to secure employment opportunities for people who have retired having reached the mandatory retirement age. These employment opportunities are offered for up to a maximum of five years from the time of mandatory retirement (60 years old) in accordance with the 2013 amendment to the Act on Stabilization of Employment of Elderly Persons.

Establishment of SOGIE* Minority Related Consultation Desk

The Company and its domestic Group companies have set up an external SOGIE minority related consultation desk where employees (including dispatch staff) can be consulted anonymously. The purpose is to reduce the psychological burden due to sexual minorities in daily life and to enable manager and colleagues to respond appropriately to them based on advice from qualified persons such as psychological counselors.

* A term that combines Sexual Orientation, Gender Identity, and Gender Expression.

Fair Personnel System

Ratio of Employees Receiving Personnel Evaluations

To bring out the best of each individual employee's abilities, companies need to conduct fair evaluations of each employee based on their roles and results, and provide appropriate remuneration, education, and roles based on the evaluation. At Kurita Water Industries, the employees confirm their own results and issues together with their supervisor at an interview in an effort to ensure transparent and fair evaluations.

Ratio of Employees under the Personnel Evaluation System at Kurita Water Industries (%)

Classification	FY2019	FY2020	FY2021
Management	100	100	100
Non-management	100	100	100

Introduction of a Self-Reporting System and Implementation of Transfer Survey

Kurita Water Industries has introduced the Self-Reporting System for employees to express to the Company their own views of their duties and workplaces, and their intentions regarding development and utilization of their own potential. Once a year, supervisors and employees talk about the employee's suitability for their current duties, their hopes for transfers to future career formation, their family status, and other matters. This enables the Company to understand the employee's thinking and the results are used to assist personnel development and workplace invigoration. In other initiatives, a Transfer Survey is conducted to enable employees to tell the Company about their aspirations for career advancement.

Creating a Corporate Culture that Facilitates Work

The Company is taking measures to support employees seeking to balance their careers and family life in order to create an environment that makes it easy for employees to work.

Parental Leave and Shortened Working Hours for Childcare

The Company has established an environment that makes it easier for employees to balance work with raising children in accordance with the Act on Advancement of Measures to Support the Development of the Next-Generation Children. In principle, employees can take childcare leave until the child reaches two years of age, but the period can be extended in certain specified conditions. Furthermore, employees may elect to work for shorter hours until the end of their child's third year of elementary school.

Status of System Use

		FY2019	FY2020	FY2021
Number of people using leave	Male	6	21	24
	Female	25	25	25
Usage rate (%)	Male	6	28	37
	Female	100	100	100

Caregiving Leave, Work Less Hours for Caregiving, and Short-term Caregiving Leave Systems

The Company offers a Caregiving Leave system to employees who have family members requiring care and who wish to continue working after caregiving. The system can be used for up to one year (365 days) in principle. Moreover, for each eligible family member requiring care, the Company offers employees a cumulative total of up to 12 months of working less hours to provide caregiving. In addition, when employees apply for leave to provide caregiving or other care to family members who need it, they can receive 5 days of special paid leave for each eligible family member per year, up to a maximum total of 10 days in the case of two or more eligible family members.

Status of System Use (Number of people)

		FY2019	FY2020	FY2021
Caregiving leave system	Male	1	1	0
	Female	0	0	0
Work less hours for caregiving system	Male	0	0	0
	Female	0	0	0
Short-term caregiving leave system	Male	10	9	9
	Female	5	7	2

Short-term Nursing Leave System

The Company provides paid leave for nursing. Employees with a child yet to enter elementary school who need to nurse that child because of an injury or illness can take up to five days a year of leave for one child or 10 days a year of leave for two or more children.

Leave System Due to Spouse Being Transferred

The Company offers employees up to three years of leave so that they accompany a spouse transferring overseas so that they can provide living and mental support.

Status of System Use (Number of people)

		FY2020	FY2021
Leave system due to spouse being transferred	Male	0	0
	Female	2	0

Volunteer Leave System

The Company has a volunteer leave system for all employees, enabling them to take up to two days of paid volunteer leave per year.

Status of System Use (Number of people)

		FY2020	FY2021
Volunteer leave system	Male	1	1
	Female	2	0

Promoting Women's Participation and Advancement in the Workplace

Promoting women's participation and advancement in the workplace has been an issue for Japan as a country. The average number of years of service among female employees of the Company is 16.4, indicating a working environment that encourages women to continue working for a relatively long period. On the other hand, little progress was made in appointing women to management positions. However, as Japan faces the prospect of a society with a shrinking population, the ability to successfully promote women's participation and advancement in the workplace has become an urgent issue for the Company in terms of securing management resources. In response, we are working to improve this situation under an action plan based on the Act on Promotion of Women's Participation and Advancement in the Workplace and the Act on Advancement of Measures to Support Raising Next-Generation Children. Our achievements through this action plan were recognized, the Company was certified*, by the Minister of Health, Labour and Welfare (Kurumin certification) as a "childcare support company" in September 2021. Kurita Water Industries has been selected for the MSCI Japan Empowering Women (WIN) Index.

The MSCI Japan Empowering Women (WIN) Index.

* A system in which Ministry of Health, Labour and Welfare certifies companies that meet certain requirements as "childcare support company" among companies that are working to support the balancing of work and childcare.

Status of Kurita Water Industries

		FY2020	FY2021
Ratio of Female Personnel (%)*	Management	2.1	2.4
	Employees	14.5	15.2
Average Years of Service for Female Personnel		16.8	16.4

* As of December 1 for each fiscal year

General Employers Action Plan Based on the Act on Promotion of Women's Participation and Advancement in the Workplace

In the five-year plan for the period from April 2018 to March 2023, Kurita Water Industries has set the following targets.
・Have 15 or more women in management positions by April 1, 2023
・Achieve a ratio of 30% or more for women among new graduate recruits for career track positions
To achieve these targets, the Company is implementing following four initiatives: 1) career formation support, 2) increase the ratio of female recruits, and 3) expand the roles of female employees, and support career development through the self-reporting system.

Initiative	Measures Taken
Career formation support	Provide opportunities that motivate women in career track positions to actively build their careers, such as career development training.
Increase the ratio of female recruits	Provide opportunities to talk with female employees in responsible positions at various junctures in the recruitment process as part of our graduate recruiting activities for career track employees.
Expand the roles of female employees	Assign female employees to departments that have few female workers. Systematically appoint women to management positions.
Support career development through the self-reporting system	Use consultations with supervisors in the self-reporting system as an opportunity to support career development.

Action Plan Based on the Act on Advancement of Measures to Support Raising Next-Generation Children

In the period from April 2021 to March 2023, Kurita Water Industries will conduct the following initiatives in stages.

Initiative	Measures Taken
Promote male participation in childcare	(1) Continue raising awareness of leave programs and create opportunities for consulting on their use. (2) Reduce the organizational burden by arranging for substitutes when employees go on childcare leave.
Promote greater understanding of diversity	Conduct training to eliminate notions of fixed gender roles and foster a culture that is accepting of work style diversity.
Promote use of annual paid leave	Continue recommending days for employees to take annual paid leave and increase the amount of time given to home life.
Childcare service subsidies	Verify use of childcare service subsidies and review and enhance the program accordingly.

Work Style Reforms

As a work style reform initiative, we are creating workplace environments that allow for more flexibility by amending the practice of working long hours and promoting telework.

Policy

1. **Transform the mindset of workers**
   Increase individual employee awareness of time and train them to perform their work efficiently.
2. **Reform work processes**
   Review work flow and operating procedures, reduce waste and promote standardization to make work more efficient.
3. **Organize working environment and rules**
   Establish work rules that set out a balance between working and breaks and create an environment that supports flexible work styles.

Amending the Practice of Working Long Hours

The Company is taking the following initiatives to rectify the issue of working long hours.
(1) Trial working intervals program
(2) Lights turned out when employees should leave the office
(3) Stricter control of working hours for employees who manage their own hours
(4) Promotion of annual paid leave

Promoting Telework

The Company is carrying out the following initiatives to telework.
(1) At all sites, employees work from home in principle (excluding jobs that require working from the office or visiting business partners for the sake of ongoing customer projects or the public interest, etc.)
(2) Develop and maintain telework infrastructure (personal computers, smartphones, etc.)
(3) Promote online company events, internal training, and internal/external meetings, etc.
(4) Online training to improve IT skills
(5) Promote paperless administration and introduce digital signatures (approval seals)
(6) Provide work-at-home benefits

Streamline Operations by Introducing IT Equipment

The Company has distributed mobile IT devices to employees in the Engineering Division to streamline design operations. Specifically, the confirmation of construction work that was previously done on paper, is now carried out using the screen of the IT device and photographs of the site. In addition, the confirmed items can be quickly shared inside and outside the Company, which has eliminated differences in understanding between relevant parties, and cut down reworking. The system also enables speedy communication with suppliers and reduces travel time to offices. By reducing the work time of engineers, they are able to shift their focus to creative operations.

Health and Safety

The Kurita Group recognizes that due to the nature of its business, its employees and those of business partners are often faced with various safety risks for manufacture and delivery of water treatment chemicals or assembly, delivery, and installation of water treatment facilities. We have therefore positioned “occupational health and safety as the top priority in operating business.” We are working to ensure the safety and support the health of Kurita Group directors and employees, as well as employees of suppliers to create working environments where they can work with confidence.

Basic Policy

The Kurita Group has established a common policy for the Group in an effort to ensure the health and safety of directors and employees, create comfortable working environments, and improve on them. We continuously promote initiatives for health and safety based on this policy.

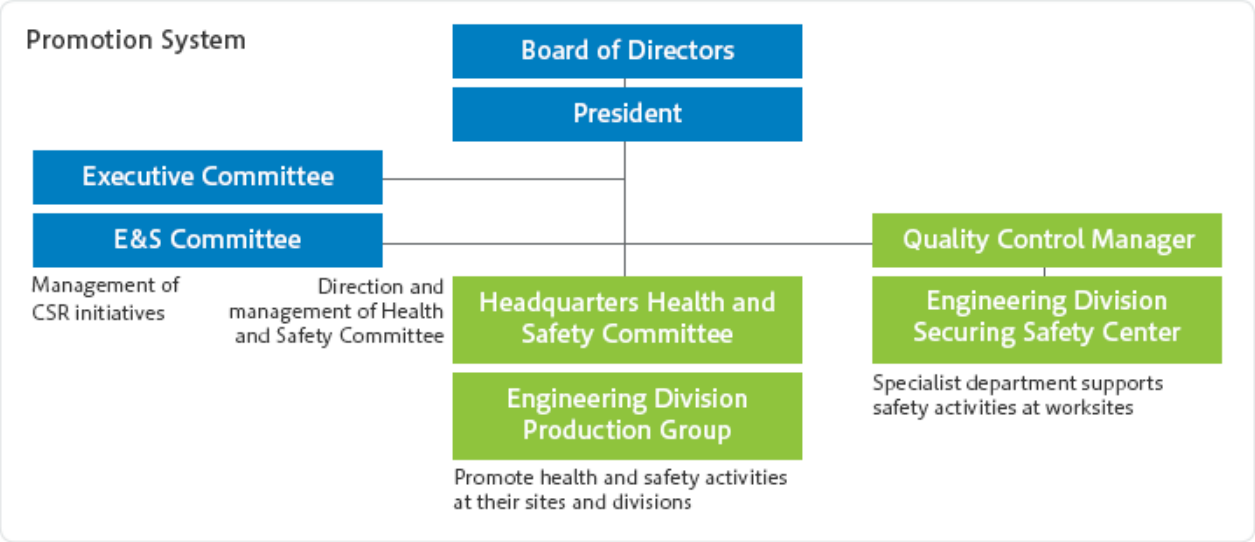
The Kurita Group Occupational Health and Safety Policy

Policy

1. **Compliance with laws**
   Kurita Group will observe laws and regulations related to occupational health and safety which apply in each country or region where it conducts business activities.
2. **Investment of management resources**
   Kurita Group will strive to maintain and improve a safe, comfortable work environment by investing its management resources such as human resources, equipment, and funds.
3. **Clarification of roles, authority, and responsibilities**
   Kurita Group will clarify the roles, authority, and responsibilities of occupational health and safety organizations and occupational health and safety managers of Group companies, so as to conduct voluntary, sustained occupational health and safety activities.
4. **Setting targets, planning, and implementation for occupational health and safety**
   Kurita Group will have the occupational health and safety organizations of Group companies set targets for their occupational health and safety activities in accordance with business contents and regional characteristics of each company, as well as the laws and regulations which apply in each country, develop plans to achieve the targets, and implement the plans through the united efforts of operators and employees. In addition, Kurita Group will conduct appropriate reviews based on the results of implementation and make continuous improvements.
5. **Elimination and reduction of risk factors and hazards**
   Kurita Group will conduct risk assessments, identify risk factors and hazards to make improvements, and eliminate or reduce the risks.
6. **Education and training**
   Kurita Group will provide education and training on occupational health and safety to its directors, employees, and business partners and inform them thoroughly of the Occupational Health and Safety Policy and the objective, plans, and measures of its occupational health and safety activities.

Promotion System

The Company and its domestic Group companies have established a health and safety system based on labor safety laws and regulations such as the Industrial Safety and Health Act. Under the Headquarters Health and Safety Committee, a joint labor-management committee which is chaired by an executive officer of the Company, each office and division of the Company has established a Health and Safety Committee (chaired by the office manager or persons designated by the chairperson of the Headquarters Health and Safety Committee), and domestic Group companies have also established Health and Safety Committees. The activity policy of the Headquarters Health and Safety Committee and the activity results of each Health and Safety Committee are reported to the Board of Directors of the Company once a year.
The Quality Control Manager determines and assesses safety outcome goals and progress toward process goals, reporting the results to the Board of Directors once a year.
The Safety Promotion Center, a department dedicated to safety group wide, supports on-site safety initiatives, as well as planning and implementing work-related injury prevention measures and monitoring the efforts of the Health and Safety Committee. Among 20 Health and Safety Committees of domestic Group companies, 18 are joint labor-management committees (as of March 2021). In addition, the percentage of employees who participate in the Health and Safety Committee is 0.7%* at the Company and 8.2% at domestic Group companies.
* The percentage of employees who participate in the Health and Safety Committee at the Head Office.



Targets and Achievements

The Kurita Group's target for the theme in fiscal 2023 and its achievement in fiscal 2021 are as shown below.

	Target for FY2023	Achievement in FY2021
Rate of front-line employee participation in safety training directly related to site operations	100%	100%

* Courses in fiscal 2021 were targeted at employees of the company, and number of participants in training is 1,777 (Fiscal Year Totals).

Main Initiatives

In fiscal 2021, the Health and Safety Committee stated the direction for its initiatives as “every one of us must have a sense of danger and establish the behavior of thinking for ourselves to remove any potential risks.” The main themes for our priority measures have been 1) disaster response, 2) prevent work-related accidents, 3) prevent traffic accidents, and 4) health management. Our main initiatives in fiscal 2021 were as follows.

Disaster Response

To further ingrain the concept of business continuity planning (BCP) throughout the Group and fortify disaster response capabilities, head office employees and Health and Safety Committee members are raising awareness of the Kurita Group Business Continuity Management (BCM) Policy at all Kurita Group business sites. The Group has put in place response measures for earthquakes and other disasters, and confirmed the status of safety inspections, emergency supply stockpiling, and preparedness training at domestic business sites, and continues to make improvements. In addition, guidelines were created to address flood damage risk at the Group’s 64 domestic sites with high risk of flooding, and evacuation drills were conducted.

The Kurita Group BCM (Business Continuity Management) Policy

Preventing Work-Related Accidents

Taking into consideration previous work injuries, we set preventing chemical-related injuries and falls as priority issues. In fiscal 2021, the Company’s responsible departments conducted 545 safety patrols, which included some performed remotely because of travel restrictions due to the pandemic, and efforts were made to discover and eliminate risks at worksites and raise the safety awareness of the employees of the Company and its business partners. In safety patrols, worksite safety measures and other aspects were evaluated by points, then the results were reported back to employees and business partners and improvements and remedies of the indicated items were carried out. The Group introduced a virtual reality-based safety training program that aims to heighten risk awareness through a more realistic experience, and conducted safety culture assessments at Group companies in Japan through a third-party organization.

Number of Safety Patrols (Kurita Water Industries)

	FY2019	FY2020	FY2021
Japan	449	569	523
Overseas	22	30	22
Total	471	599	545

Number of Participants in Safety Education (Kurita Water Industries)

Training name	FY2019	FY2020	FY2021
Training on handling fires	95	265	138
Training on handling chemicals	86	500	238
Safety training for new employees	209	160	84
Safety training for overseas national staff employees	32	19	9
Special training on full-harness type fall prevention devices	288	89	12
Others	263	50	35
Total	973	1,083	516

Work-Related Accident Cause Identification and Recurrence Prevention

The types of injuries that occurred during work at the Company and domestic Group companies in fiscal 2021 are listed below. For the accidents that occurred, the Company's dedicated department for promoting onsite safety investigated the cause and established measures to prevent recurrences, which are promoted through the Company and domestic Group companies.

The types of injuries that occurred at the Company and domestic Group companies in fiscal 2021

Falls, chemical-related injuries, burns, being caught, cuts, overturning, strains, being crushed, projectiles and falling objects, electric shock, heat stroke, collisions, bug bites

Traffic Accident Prevention

The Company and its domestic Group companies provide practical training for safe driving, and efforts are made to prevent traffic accidents because cars are often used when visiting the plants and offices of customers. Drive recorder records are used to educate drivers on the number of dangerous driving maneuvers that had been performed and employees with little driving experience are given safe driving education to increase their skills.

Regular Health Examination

The Company conducts regular health examinations for employees. We ensure that all eligible employees receive their examinations.

	FY2019	FY2020	FY2021
Rate of Employees Receiving Regular Health Examinations	100	100	100

Response to Hazardous Operations

The Company's employees may handle organic solvents, designated chemical substances, and other materials when performing analysis and experiments. To deal with hazardous operations by its employees, the Company has devised exposure prevention measures, such as installation of onsite ventilation equipment and protective equipment. We also conduct special health examinations based on surveys of employee's substance usage records.

	FY2019	FY2020	FY2021
Rate of Employees Receiving Special Health Examinations	100	100	100

Health Promotion Initiatives

The Company conducts measures to improve employee health, such as seminars on how to improve diet, measuring physical age, and holding health events such as walking rallies.

	FY2019	FY2020	FY2021
Number of Health Seminars	10	20	44
Number of Health Events	40	46	30

Initiatives to Prevent Mental Health Issues

In our initiatives to prevent mental health issues, each Health and Safety Committee holds seminars on mental health. In addition, we conduct a Stress Check, which is a survey given to all employees for promoting self-awareness, carried out under the guidance of the stress check systems designed by the Ministry of Health, Labour and Welfare according to the Industrial Safety and Health Act.

	FY2019	FY2020	FY2021
Number of Mental Health Seminars	16	19	10
Ratio of Employees Receiving Stress Checks (%)	98.4	98.5	98.6

CSR Requirements of Suppliers

The Kurita Group considers it vital to obtain cooperation from suppliers in order to conduct safe business across the entire supply chain. We have established the Kurita Group CSR Procurement Guidelines, and we have asked suppliers to ensure the safety of their employees in accordance with laws and regulations, ensure healthy working environments, and conduct labor safety education for workers, and to provide appropriate information. In particular, we ask major suppliers to conduct a self-evaluation based on the guideline and to implement improvement measures.

The Kurita Group CSR Procurement Guidelines

Acquisition of ISO 45001 / OHSAS 18001 Certification

The Kurita Group is developing a safety management system based on the concepts of ISO 45001 to ensure safety at production and construction sites and prevent work-related injury. The status of ISO 45001 / OHSAS 18001 certification as of March 31, 2021 is as follows. See the “Social” section of the ESG Data sheet for group wide certification rates and other data.

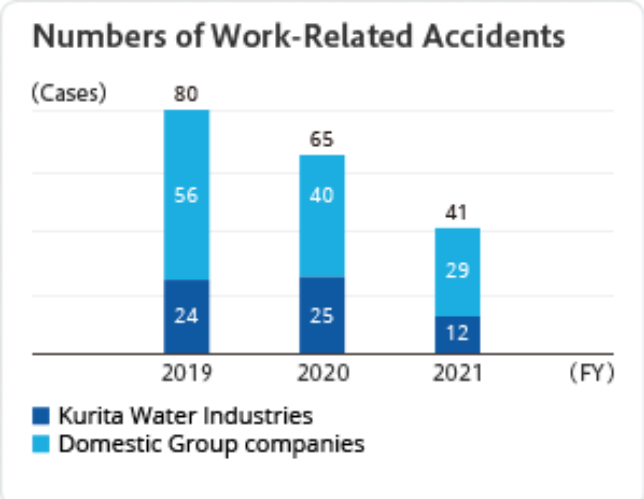
ESG Data

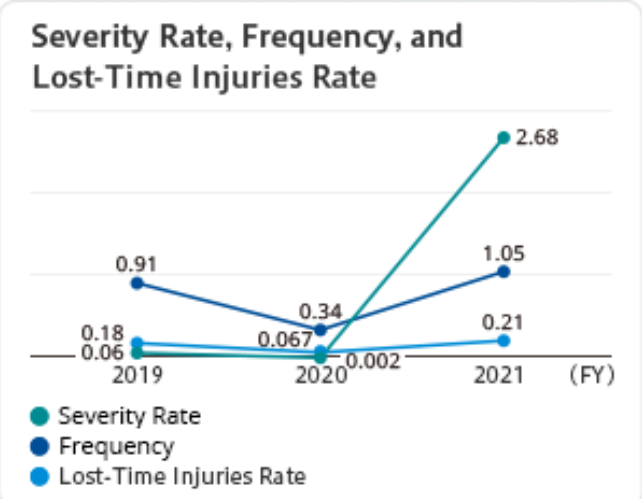
Companies with ISO 45001 / OHSAS 18001 certification

- Kurita (Taiwan) Co., Ltd.
- Kurita Water Industries (Dalian) Co., Ltd.
- Kurita Water Industries (Jiangyin) Co., Ltd.
- Hansu Co., Ltd.
- Kurita Europe GmbH
- Kurita Turkey Kimya A.S.
- Kurita do Brasil LTDA.
- Kurita (Singapore) Pte. Ltd.
- Kurita Water (Malaysia) Sdn. Bhd.
- PT Kurita Indonesia

Status of Work-Related Accidents

Numbers of Work-Related Accidents at Kurita Water Industries and Domestic Group Companies
The number of work-related fatalities at Kurita Water Industries and domestic Group companies from fiscal 2019 to fiscal 2021 was 0.





Priority Themes: Themes for Growth Opportunities (Environmental Improvement Activities)

The Kurita Group's Environmental Improvement Activities

The Kurita Group defines its environmental improvement activities as follows:

1) activities to comply with the environment-related laws and regulations of each country and region that are applicable in conducting business activities;
2) initiatives to solve international issues related to the sustainability of water and the environment through business activities; and
3) disclosure of information related to 1) and 2), and engagement with customers, business partners, employees, shareholders and investors, and local communities related to such activities.

The Kurita Group's environmental improvement activities include initiatives to reduce internal water and energy use and waste emissions. They also include activities to reduce environmental impact at customers who use products and services related to water and the environment that the Kurita Group has developed over many years. These are linked with the themes for growth opportunities in our CSR Policy. We are aiming to create shared value with society by working to solve social issues through the reduction of environmental impact at customers and in the Kurita Group, while simultaneously achieving business growth.

Basic Policy

The Kurita Group has established the Kurita Group Environmental Policy as a common policy for the Group regarding environmental issues, which are a common challenge for society. We continuously promote initiatives for environmental improvements based on this policy.

› The Kurita Group Environmental Policy

- The Kurita Group will engage in the environmental improvement activities to achieve the four themes: “finding solutions to the water resource issues”; “realizing sustainable use of energy”; “reducing waste”; and “enhancing industrial production technology” of the “CSR Policy” (hereinafter referred to as the “Growth Opportunity Themes”), based on the corporate philosophy, “Study the properties of water, master them, and we will create an environment in which nature and man are in harmony”.
- The Kurita Group will support the “SDGs (Sustainable Development Goals) adopted by the UN in 2015 and contribute to achieving relevant goals through the environmental improvement activities.
- The Kurita Group will establish systems and rules, etc. necessary for the performance of the environmental improvement activities.
- Officers and employees of the Kurita Group must actively engage in the environmental improvement activities in their respective capacities.
- The Kurita Group will develop its unified medium-term goals and activity plans by fiscal year related to the environmental improvement activities and manage its activity goals.
- If any actual or alleged breach of the local laws and regulations arises, the officers and employees of the Kurita Group will immediately report the same in accordance with the Kurita Group’s Emergency Communication Procedures.
- The Kurita Group will check that business activities are being carried out appropriately in accordance with local laws and regulations.
- The Kurita Group will verify the effect of the environmental improvement activities on a regular basis, and utilize this for continual improvement.
- The Kurita Group will carry out education and training activities for the promotion of the environmental improvement activities for its officers and employees.
- The Kurita Group will disclose, in an active and fair manner, information which helps its stakeholders to understand the environmental improvement activities.
- The Kurita Group will check expectations and concerns of the stakeholders with regards to the Group, and utilize the results to continually improve the environmental improvement activities.

Environmental Initiative Promotion System

The Kurita Group has established the E&S (Environment & Social) Committee, which is chaired by a Managing Director of the Company, and the Group E&S Committee, chaired by the same director and composed of representatives of Group companies. These committees oversee Environmental Improvement Activities in the Kurita Group. The E&S Committee formulates unified medium-term targets for the Kurita Group's Environmental Improvement Activities and action plans for each fiscal year. Personnel responsible for promoting the initiatives (committee members or personnel designated by representatives of each company) are tasked with driving efforts to achieve Environmental Improvement Activities targets at their assigned company or organization. They report the status and results of the activities to the E&S Committee.
The E&S Committee confirms stakeholder expectations and concerns, and reports these to the Company's Board of Directors along with the results for the Kurita Group's initiatives related to CSR once a year.

Environmental Improvement of Customers' Operations

The Kurita Group is taking steps to solve social issues outlined in the SDGs by providing customers with solutions on the themes of "water-savings," "CO_2 emissions reduction," and "waste reduction."

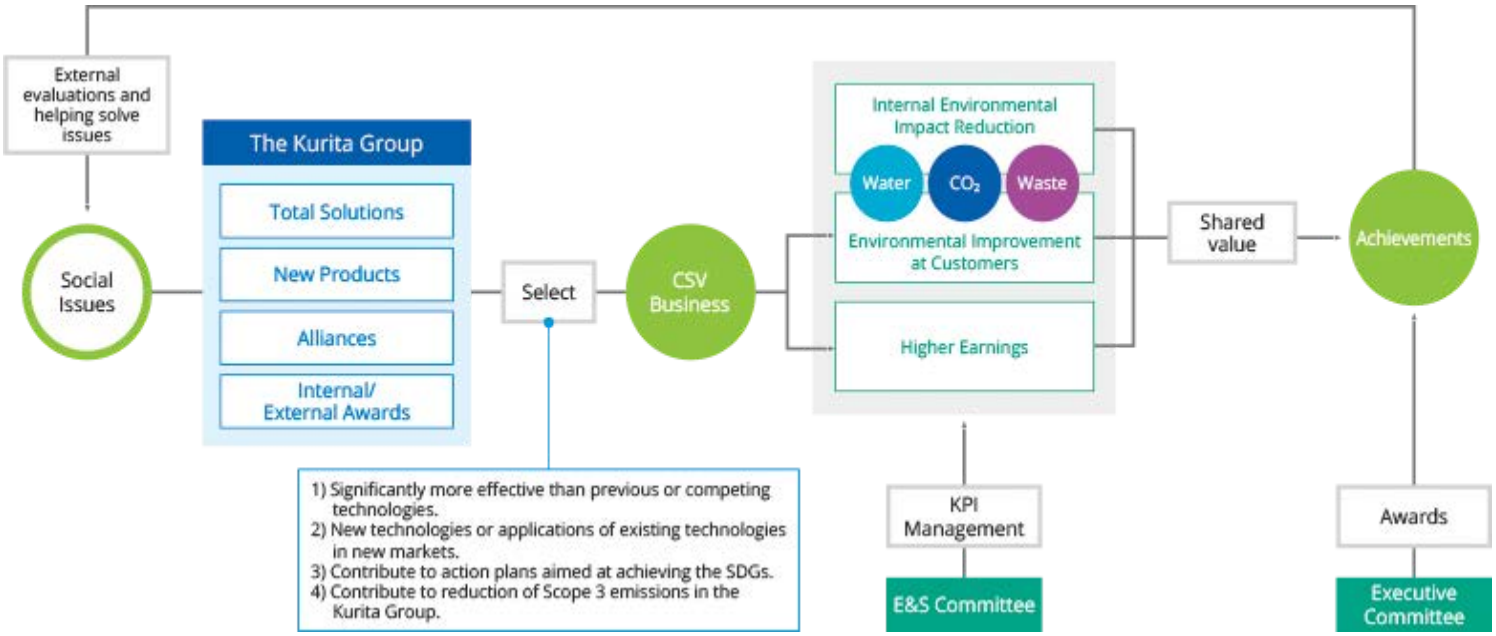
The Kurita Group's CSV Business

The Kurita Group has defined products, technologies, or business models that contribute significantly to water-saving, CO_2 emissions reduction and waste reduction compared to previous levels as the "CSV business," and has expressed these advantages as respective coefficients. The reduction of environmental impact from customers' operations is calculated based on these CSV business coefficients and application results. The CSV business is also constantly reviewed in light of the development status of more competitive products, technologies, and business models.
Furthermore, "Development of the CSV Business" is one of the priority measures of the MVP-22 plan, and we have established key performance indicators (KPIs) for this, engaging in initiatives linked with the plan.

CSV Business Selection Standards

Products, technologies or business models that meet some or all of the following standards with regard to water-savings, CO_2 emissions reduction, and waste reduction:

1) Significantly more effective than previous or competing technologies.
2) New technologies or applications of existing technologies in new markets.
3) Contribute to action plans aimed at achieving the SDGs.
4) Contribute to reduction of Scope 3 emissions in the Kurita Group.



Internal Environmental Improvement Activities

The Kurita Group works to reduce water usage, energy usage, and waste, while adhering to the environmental laws and regulations of each country and region that apply to the Group's business activities. These activities, including assessments related to compliance with environmental laws and regulations, are implemented in accordance with the Kurita Group Environmental Policy in order to achieve targets related to the CSR Policy.

Status of Compliance with Environmental Laws and Regulations

		FY2019	FY2020	FY2021
Infringements of environmental laws and regulations	Number of infringements	0	0	0
	Fines (Thousand yen)	0	0	0
Emissions having a serious impact on the environment		None	None	None

Information Collection and Disclosure Based on International Standards

The Kurita Group collects and discloses data on the environmental impact of its business activities in line with two international standards – the Greenhouse Gas (GHG) Protocol and the GRI Standards. Based on that data, the Group sets reduction targets and works to reduce its environmental impact.

Please refer to the following link for the environmental data of the Kurita Group based on international standards.

ESG Data

Kurita Group KPI: Customer Impact Reduction – Kurita Group Impact

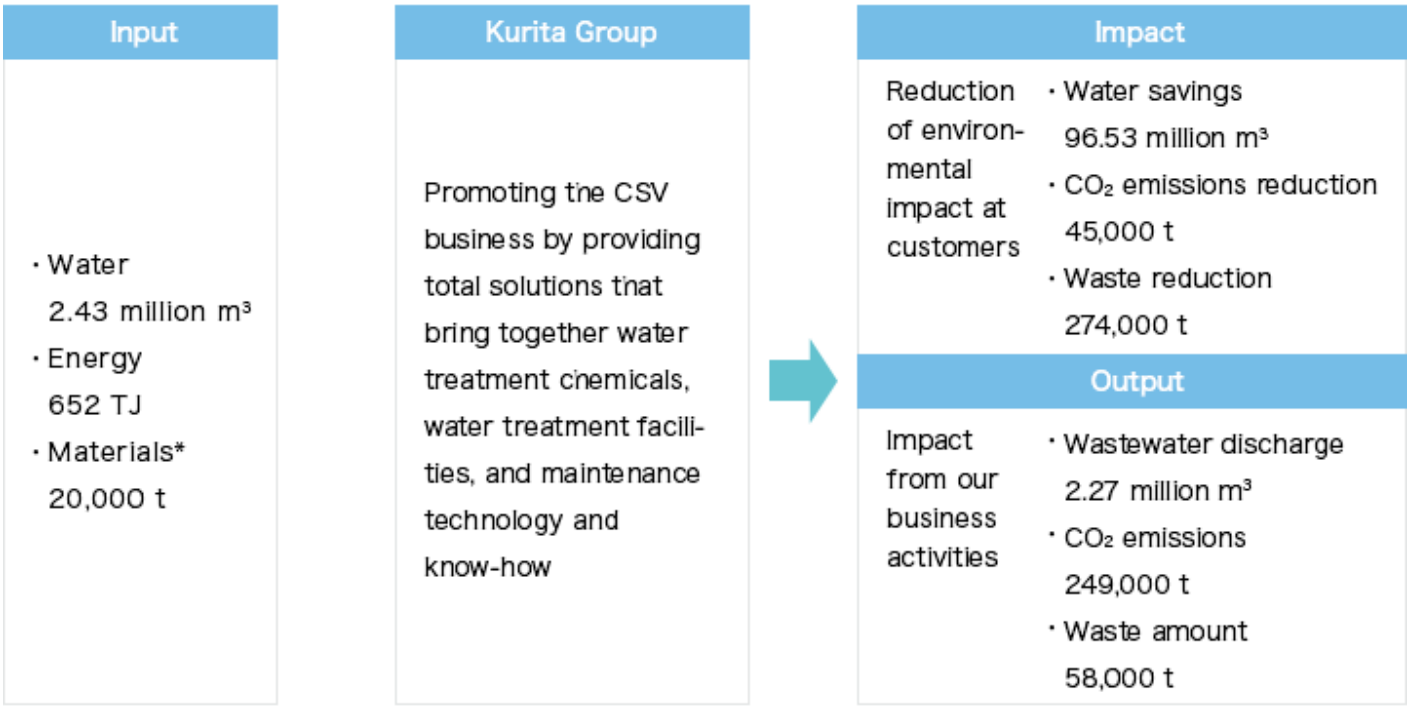
The Kurita Group has set as a target "Customer impact reduction – Kurita Group impact" with the aim of achieving a reduction of environmental impact through its business that offsets and even exceeds the environmental impact generated by its business, and to this end it is compiling data on actual reductions and impact.

About "Water intake used in our business activities"

For the theme of "Solve issues related to water resources" in our CSR Policy, we have set as an indicator "Water savings at customers – Amount of water intake used in our business activities." Water intake is compiled based on an approach established in 2018 when the target was set; it is not equivalent to water intake under the GRI Standards.

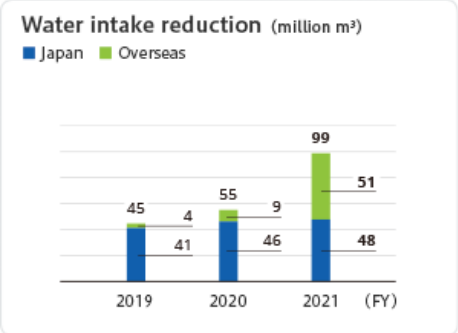
About "CO_2 emissions from our business activities"

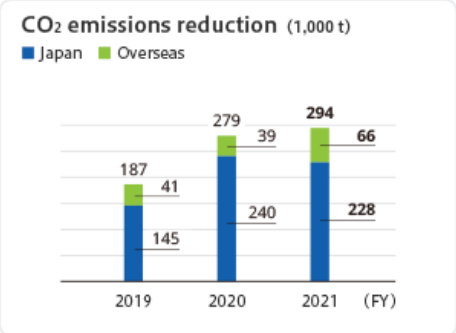
For the theme of "Realize sustainable energy use" in our CSR Policy, we have set as an indicator "CO_2 emissions reduction at customers – CO_2 emissions from our business activities." The scope of the Group's emissions compiled for this indicator includes data corresponding to Scopes 1 to 3 as defined in the GHG Protocol. The data here is complied based on an approach established in 2018 when the target was set and differs from ESG data compiled and disclosed based on the GHG Protocol.

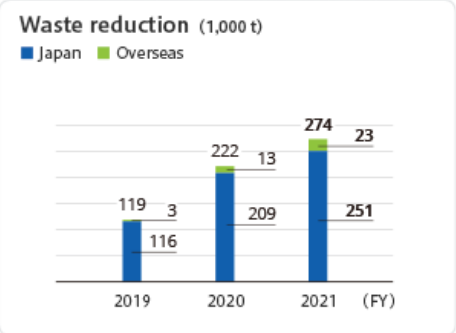


*Materials are raw materials for water treatment chemicals in Japan.

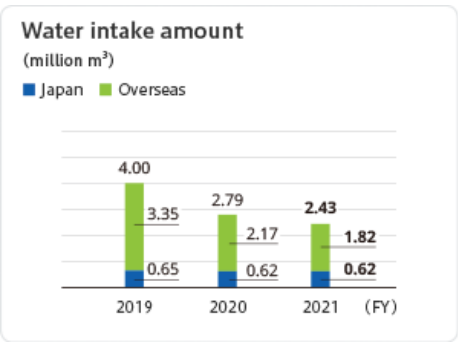
Reduction of Environmental Impact at Customers

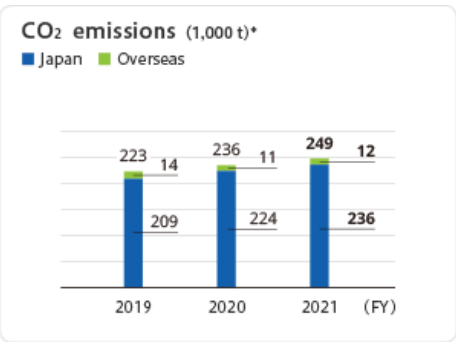


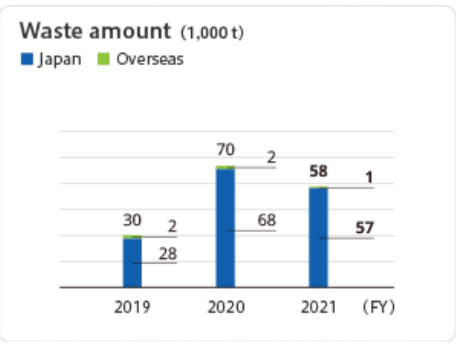




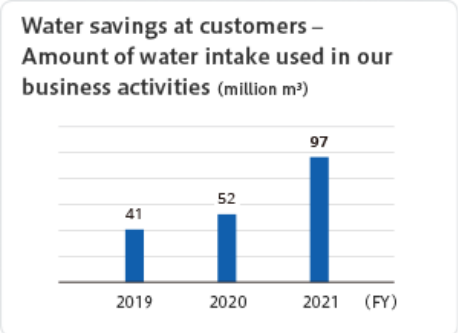
Internal Promotion of Environmental Improvements

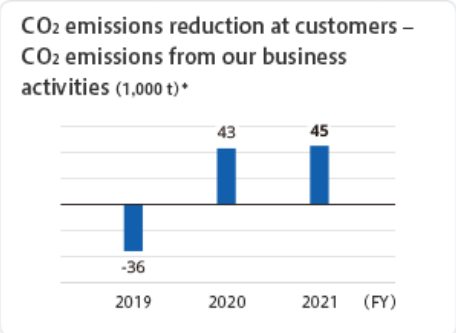


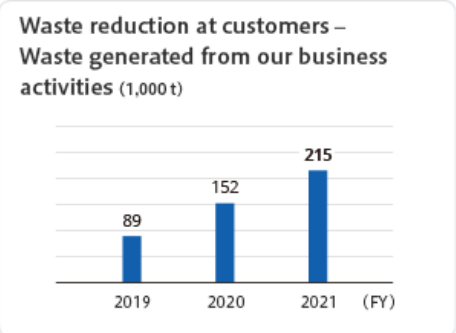




Kurita Group KPI: Customer Impact Reduction – Kurita Group Impact







* "CO_2 emissions from our business activities" include emissions generated from the ultrapure water supply business, which comes under Category 13 of Scope 3, as well as emissions in Scope 1 and 2 stipulated in GHG (Greenhouse Gas) protocol.

ISO 14001 Certified Bases

The Kurita Group acquires ISO 14001 certification, mainly at business sites that have a heavy environmental impact. As of March 2021, the status of acquisition in the Group is as shown below.

Company	Office
Kurita Water Industries Ltd.	Shizuoka, Yamaguchi, Toyoura and Tsuruga plants; Sakai sub-branches
Kurita Chemical Manufacturing Ltd.	Head Office, Ako plant
Kurita Buil-Tech Co., Ltd.	Head office
Kuritaz Co., Ltd.	Head office, West Japan branch office and nine other business sites
Kuritec Service Co. Ltd.	Head office, East Japan, Iga, Mie, Harima and Oita plants
Kurita-GK Chemical Co., Ltd.	Head office and Rayong branch
Kurita (Taiwan) Co., Ltd.	
Kurita Water Industries (Dalian) Co., Ltd.	
Kurita Water Industries (Jiangyin) Co., Ltd.	
Hansu Co., Ltd.	Head office and two other business sites
Kurita Europe GmbH	Head office and two other business sites
Kurita Turkey Kimya A.S.	Head office and one other business site
Kurita do Brasil LTDA.	Head office and three other business sites
Hansu Technical Service Ltd.	
Kurita (Singapore) Pte. Ltd.	
Kurita Water (Malaysia) Sdn. Bhd.	
P.T. Kurita Indonesia	
Kurita America, Inc.	

Communication with Stakeholders

Bolstering Information Dissemination

The Kurita Group disseminates information about its approach, initiatives, and achievements on environmental improvement through its website, sustainability reports, exhibitions, and dialogue with shareholders and investors. In particular, we are working to bolster information dissemination through our website, where we enhance our disclosure based on the Group's initiatives and achievements, making reference to the GRI standards.

CSR Requirements of Suppliers

The Kurita Group considers it vital to reduce environmental impact across the entire supply chain with the cooperation of business partners. To this end, we have established the Kurita Group CSR Procurement Guideline and have business partners to comply with environmental laws and regulations, take steps to reduce their environmental impact by setting voluntary standards to reduce water and energy usage, and to provide information appropriately. In particular, we ask major business partners to conduct a self-evaluation based on the guidelines and to implement improvement measures.

The Kurita Group CSR Procurement Guidelines

Solve Issues Related to Water Resources

The Kurita Group Approach

The world is facing various issues related to water, including water shortages due to uneven distribution, water pollution associated with industrial development, and depletion of ground water. These rank among the most serious social issues alongside climate change. The Kurita Group will strive to reduce the amount of water intake for use in its business activities while using its water savings, purification, and reuse technologies to provide the optimal quality and volume of water required for people's lives and industrial development.

Contribution to Achieving the SDGs

Targets and Achievements

The Kurita Group aims to achieve a reduction of environmental impact through its business that offsets and even exceeds the environmental impact generated by its business. To this end, we have set targets for the "Water savings at customers − Amount of water intake used in our business activities." We will continue to measure these actual values going forward.

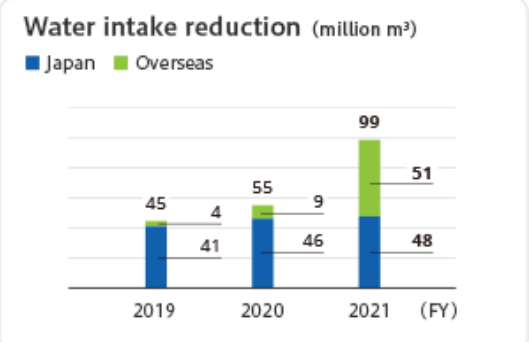
	Target for FY2023	Achievement in FY2021
Water savings at customers − Amount of water intake used in our business activities	240 million m³	97 million m³

With Customers

Saving Water at Customers' Plants and Business Sites

The graph shows the performance of water reduction at customers' plants and business sites through proposals of the Kurita Group. These mainly represent reduction in the feed water volume by optimizing and managing water quality in boilers and recirculating water in cooling water systems, as well as recovery and reuse of wastewater.

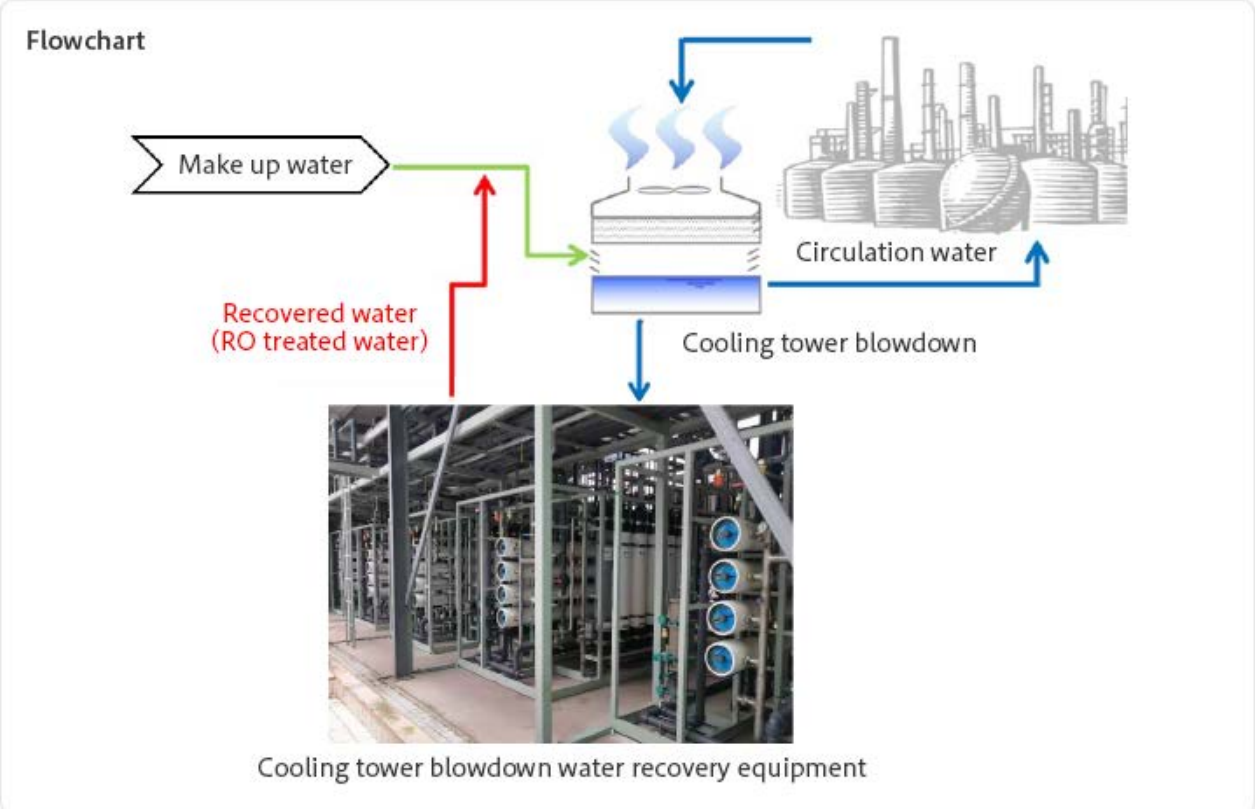
Environmental Improvement of Customers' Operations



Customer Example

Zhejiang Satellite Petrochemical: Environmental Improvement Case Study (Project by Kurita Water Industries (Dalian))

Zhejiang Satellite Petrochemical Co. Ltd. manufactures chemical products, mainly using propane dehyrdogenation (PDH) technology. As part of its environmental protection policies, the Chinese government is calling on companies to save energy, reduce emissions and support China's transition to a low-carbon, green economy. In response, Zhejiang Satellite Petrochemical has been working to conserve water and reduce wastewater.
Zhejiang Satellite Petrochemical's manufacturing plant uses industrial water as cooling water. The quality of the plant's industrial water tended to fluctuate depending on the season, so when water quality declined, the customer was forced to increase blowdown water volume from its cooling towers to ensure the smooth operation of cooling equipment. That in turn led to an increase in the volume of make-up water supplied to the cooling towers and also the amount of wastewater discharged from the plant.
To address that issue, Kurita Water Industries (Dalian) Co., Ltd. developed a proposal to limit the amount of industrial water used by the plant by installing membrane filtration equipment to treat and reuse cooling tower blowdown water within the water quality design parameters of the cooling equipment. The proposal was adopted by Zhejiang Satellite Petrochemical in 2015, helping it save 1.2 million m³ of industrial water used and discharge water by the end of 2020. The project has set the benchmark for environmental protection in the area and has been highly praised by the local government. Zhejiang Satellite Petrochemical expanded its cooling tower blowdown water recovery equipment in 2021 and expects to save a further 490,000m³ of industrial water and discharge water each year.



Cooling tower blowdown water recovery equipment

Voice of the Customer

Kurita is a highly professional water treatment company that provides us with advanced technical support and onsite services in water treatment facility operation. Kurita's cooling tower blowdown water recovery equipment has helped us achieve our targets for saving water, reducing water discharge and cutting costs. Additionally, by improving the quality of local water resources, we are playing our part in the development of the local community. We have seen first-hand how Kurita's advanced technological capabilities provide real value to society.

Mr. Yunwei Su
Zhejiang Satellite Petrochemical Co. Ltd.

Seiko Epson: Environmental Improvement Case Study (Project by Kurita Water Industries)

Seiko Epson Corporation's business is focused on the production and sale of printers and related products. To be "an indispensable company" – one element of its management philosophy – Seiko Epson is working to solve social issues through its business activities. At each of its business sites, Seiko Epson works on an ongoing basis to reduce its environmental impact, such as by cutting plant water usage and greenhouse gas emissions, in line with its Environmental Vision 2050.
To help the plant achieve its environmental goals , Kurita Water Industries Ltd. put forward a proposal to reclaim and reuse wastewater from the ultrapure water production systems used in the plant's manufacturing processes. The RO membrane water treatment system, one of the ultrapure water production systems, discharges water with high levels of ions and impurities (brine) from the feed water, but much of the discharged water has been emitted as wastewater. To address this issue, Kurita identified a reprocessing method and an application for reuse at the plant based on the concentration and type of impurities in the brine. Since adopting the proposal, the customer has reduced its potable water usage by around 38,000m ^{3} per year. The ultrapure water production systems also incorporate a warming step to improve the permeation efficiency of water for production processes. By recovering heat from the reclaimed water, the new system has also reduced the plant's CO_2 emissions by 26 tons per year.

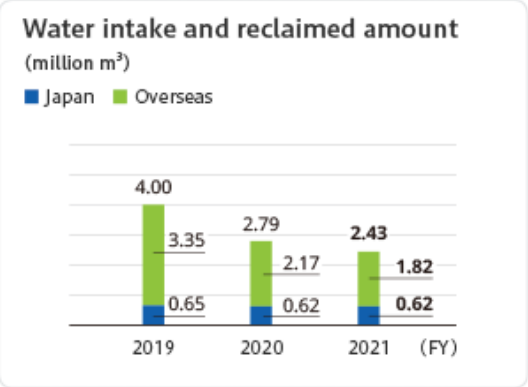
Brine reclamation system

Internal Environmental Improvement Activities

Reducing Water Intake within the Kurita Group

Based on the characteristics of each company and business site, the Kurita Group selects the items that are strongly correlated with water usage, such as production volume, net sales, or site area, as the denominators for a per-unit measurement, then set about reducing water usage per unit.

Internal Promotion of Environmental Improvements

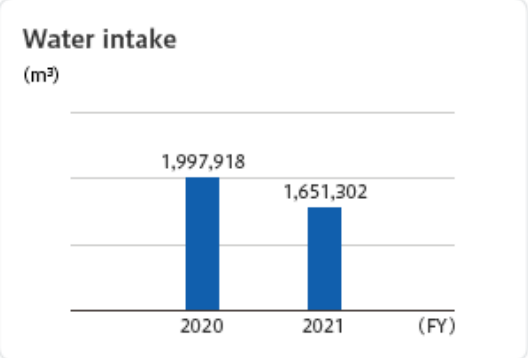


Kurita Europe: Water Savings Case Study

Headquartered in Germany, Kurita Europe GmbH (KEG) carries out R&D and manufactures and sells water treatment chemicals. KEG is a core Group company in the water treatment chemicals business with responsibility for a wide market area stretching from Europe to the Middle East and Africa. KEG's Ludwigshafen plant is located in an industrial park that draws water from a local river for industrial processes. KEG itself uses the river water as cooling water in manufacturing processes for water treatment chemicals. The river water does not come into direct contact with any products and is returned to the river without requiring treatment. Nevertheless, the plant accounted for around 70% of the Kurita Group's total water intake in the fiscal year ended March 31, 2020. Reducing water consumption has therefore been a key challenge for the plant.

KEG's Ludwigshafen plant has implemented a number of water conservation measures, such as reducing the production volume of products that require large amounts of cooling water and limiting the use of cooling water by overhauling manufacturing processes. These measures have cut the plant's water intake volume by 17% compared with the level in the fiscal year ended March 31, 2020. Also, after installing new electrical cooling equipment, the plant estimates it will reduce water intake by more than 30% year on year in the fiscal year ending March 31, 2022.

Water intake at Kurita Europe GmbH



Electrical cooling equipment

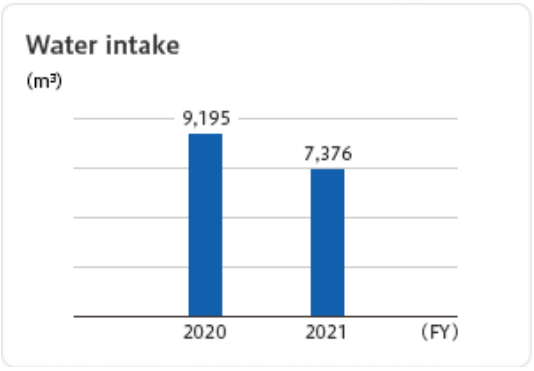
Kurita Analysis Service: Water Savings Case Study

Kurita Analysis Service Co., Ltd. supports domestic Group companies through the provision of various analysis services, including quality testing for ultrapure water and cooling water and environmental testing for wastewater and soil. Kurita Analysis Service's Atsugi Office uses pure water in a wide range of analytical processes. To reduce water usage, the office worked with Kurita Water Industries Ltd. to optimize the operation and management of its pure water production systems. The RO membrane water treatment system, which is one of the pure water production systems, discharges brine* during the filtration process. Kurita Water Industries increased the proportion of brine recovered in the raw water tank and boosted the rate of flow through the RO membranes with improved temperature control of water in the raw water tank. This enabled us to reduce the office's water intake by increasing the volume of pure water generated per unit of water intake.

* High-salt water that does not pass through RO membranes. Some is reclaimed and reused as raw water in the RO membrane water treatment system.

RO membrane water treatment system

Water intake at Kurita Analysis Service Co., Ltd. (m^3)



Evaluation of Water Risk at Internal Sites

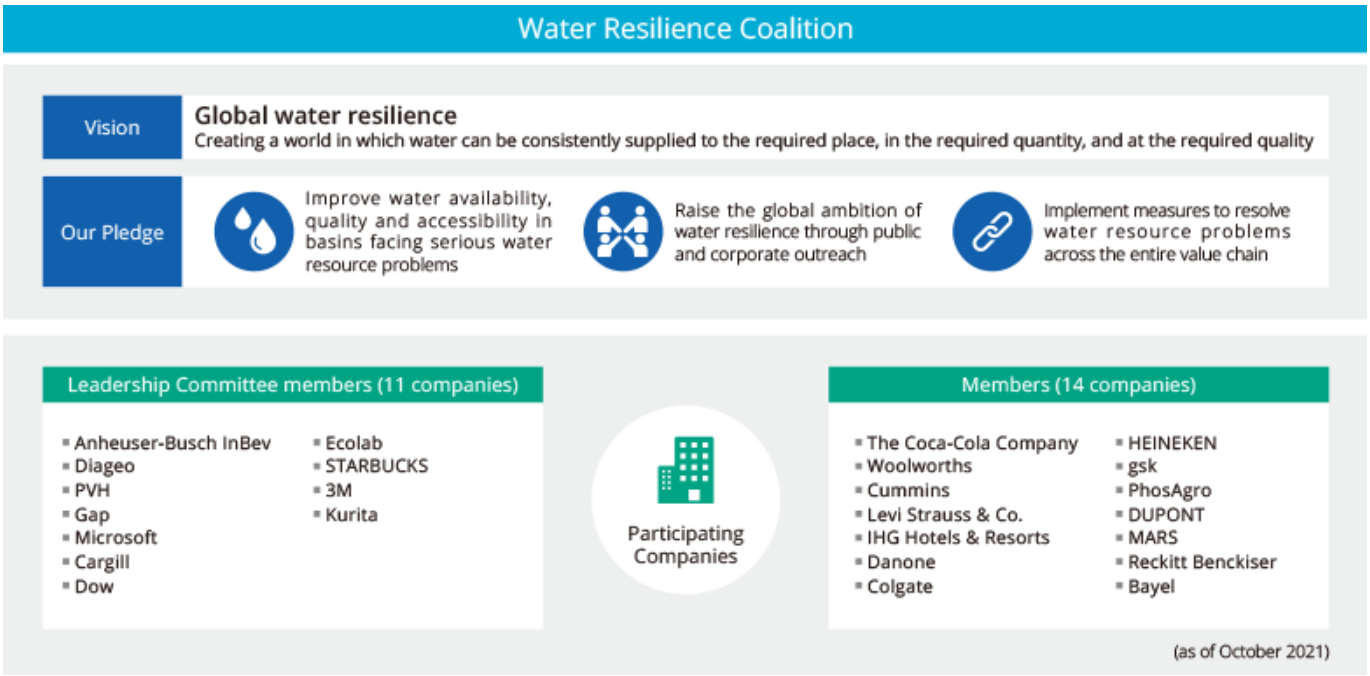
Kurita assesses and ascertains water risk for Group sites using the Aqueduct Water Risk Atlas and benchmarks for water intake, business characteristics and other criteria provided by the World Resources Institute. As of July 2021, our assessments had identified nine sites with particularly high water risk. Based on that, we are prioritizing efforts to reduce water risk at those sites.

Participation in the Ministry of the Environment's Water Project

Kurita Water Industries is participating in the Water Project of the Ministry of the Environment, which provides an opportunity to disseminate information about its technologies and business activities related to efficient use of water resources and preservation of the water environment.

Participation in WRC

The Company participated in the Water Resilience Coalition ("WRC") as a Leadership Committee member. The WRC is a new organization established under the CEO Water Mandate, a United Nations Global Compact initiative. It will launch industry-driven initiatives for the preservation of water resources in water-stressed basins all over the world. Through its participation in the WRC, the Kurita Group works with other companies and organizations to preserve and restore the world's water resources with the aim of achieving the SDGs and realizing its corporate philosophy.
The Company has also participated in the UN Global Compact and has endorsed the CEO Water Mandate.



*Further information about the WRC is available here:

Medium-Term Targets of the WRC

The medium-term targets of the WRC are as follows

Target year	Target
By 2030	・ Conduct initiatives in more than 100 basins around the world to help improve the water resources of more than 3 billion people in the target basins. ・ Have had a positive effect on the water and sanitary conditions of at least 100 million people.

Targets and Initiatives of the Kurita Group

In response to the WRC's targets, the Kurita Group added the following targets to the priority theme "Solve issues related to water resources" in its CSR Policy in May 2021.

Target year	Target
FY2031	Number of people that can benefit from improvement in water resources*: 700 million people*

* Number of people that can benefit from improvement in water availability, water quality, and water accessibility in highly-stressed basins.

Realize Sustainable Energy Use

The Kurita Group Approach

The Kurita Group recognizes abnormal weather and natural disasters due to global warming and other climate change issues as a major social challenge to be addressed globally. One of the ways we are responding to climate change is taking steps to reduce our CO_2missions by reducing our in-house per-unit energy consumption. At the same time, we are working to optimize energy use at our customers' plants and business sites, and to promote the spread of energy-creating technologies.

Contribution to Achieving the SDGs

Targets and Achievements

The Kurita Group aims to achieve a reduction of environmental impact through its business that offsets and even exceeds the environmental impact generated by its business. To this end, we have set targets for the "CO_2 emissions reduction at customers – CO_2 emissions from our business activities." We will continue to measure these actual values going forward.

	Target for FY2023	Achievement in FY2021
CO_2 emissions reduction at customers[*1] – CO_2 emissions from our business activities[*2]	10,000 t	45,000 t

*1 Please refer to the link below for the details of "CO_2 emissions reduction at customers."

Environmental Improvement of Customer's Operations

*2 "CO_2 emissions from our business activities" includes emissions generated from ultrapure water supply business which applies to Category 13 of Scope 3 adding to the Scope 1 and 2 stipulated in GHG (Greenhouse Gas) protocol.

In order to make efforts in line with the Paris Agreement, the Kurita group has set the long-term targets aligned with the well below 2℃ indicated by SBTi[*3], starting from the fiscal year ended March 31, 2020 as the baseline year, and are working to reduce Scope 1, 2 and Scope 3 emissions in addition to the above-mentioned targets. In fiscal 2021, we attained our medium- to long-term target for Scope 3 emissions ahead of plan. Emissions were reduced by 27.6% compared with the previous fiscal year. This was achieved due to a decline in emissions in Category 11 (use of sold products). Category 11 emissions fluctuate in line with trends in project orders, so we intend to assess and analyze trends going forward and determine whether targets for Scope 3 emissions need to be revised.

Metrics	Long-Term Targets	
	FY2031	FY2051
Scope 1 and 2 emissions reduction (Reduction rate from FY2020)	27.5%	100%
Scope 3 emissions reduction (Reduction rate from FY2020)	27.5%	-

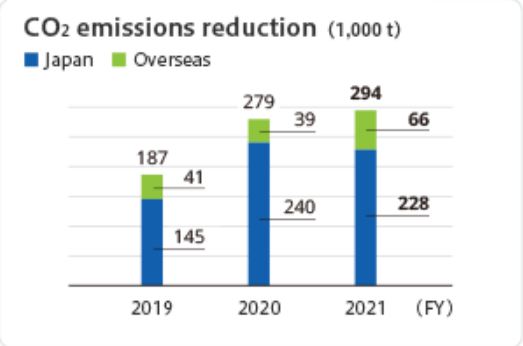
*3 An initiative that encourages companies to set greenhouse gas emission reduction targets in line with scientific knowledge, with the goal of limiting global average temperature rises due to climate change to well-below 2℃ compared to pre-industrial levels.

With Customers

Reducing CO_2 Emissions at Customers' Plants and Business Sites

The graph shows the performance of CO_2 emissions reduction at customers' plants and business sites through proposals of the Kurita Group. These mainly represent reduction in fuel use by maintaining or improving heat efficiency in boiler and cooling water facilities. It also represents the impact of adopting inverters for rotating equipment in water treatment facilities.

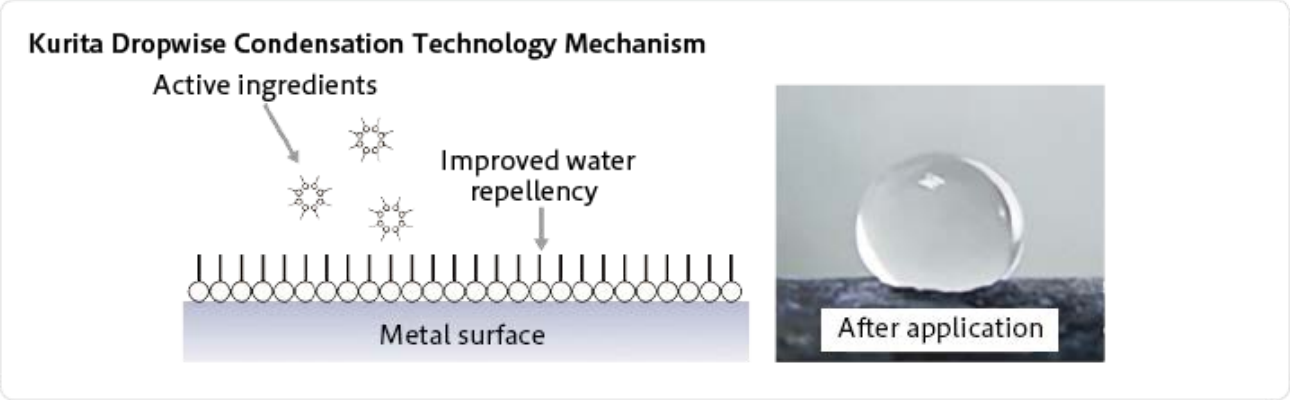
Environmental Improvement of Customers' Operations



Customer Example

Thai United Awa Paper: Environmental Improvement Case Study (Initiative of Kurita-GK Chemical)

The main business of Thai United Awa Paper Co., Ltd. is the manufacture and sale of filter paper for automotive engines and separator base paper for storage batteries. As a member of the Awa Paper Group, the company is working to reduce its environmental impact based on the Group's environmental policy. An ongoing issue in particular has been reducing energy usage in the paper manufacturing process.
Kurita-GK Chemical Co., Ltd. proposed to reduce the volume of steam consumed by incorporating Kurita Dropwise Condensation Technology into the dryer used in the drying process. This technology improves thermal conductivity by making metal surfaces water repellent. In the drying process, wet paper is dried by being brought into contact with a steam-heated metal dryer. Steam condensation causes a film of water to form on the surface on the steam side of the dryer. This film lowers thermal conductivity significantly. This was causing more steam to be needed to heat the dryer to appropriate temperatures. By adopting Kurita-GK Chemical's proposal to eliminate the water film, the customer reduced the amount of steam used by 12%-25% per paper production volume.



* Kurita Dropwise Condensation Technology won the Agency of Natural Resources and Energy Director-General's Award in the Product and Business Model category of the 2019 Energy Conservation Grand Prize, organized by The Energy Conservation Center, Japan.

Voice of the Customer

This proposal achieved a far greater impact than we imagined, and the volume of steam used was reduced significantly. Continuing to use this technique will also help control corrosion, so we expect that it will also be effective in lowering maintenance costs.
We look forward to ongoing proposals and cooperation as we seek to further reduce costs and environmental impact in our operations.

Mr. Takafumi Tomai
Factory Manager
Thai United Awa Paper Co., Ltd.

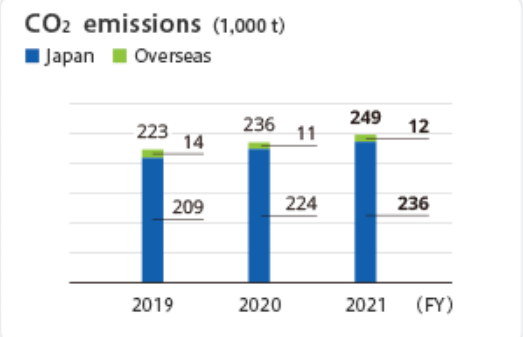
Internal Environmental Improvement Activities

Reducing Energy Usage within the Kurita Group

Based on the characteristics of each company and business site, the Kurita Group selects the items that are strongly correlated energy usage, such as production volume, net sales, or site area, as the denominators for a per-unit measurement, then set about 1% reduction of energy usage per unit year on year.

Kurita Group KPI: Customer Impact Reduction – Kurita Group Impact

Internal Promotion of Environmental Improvements

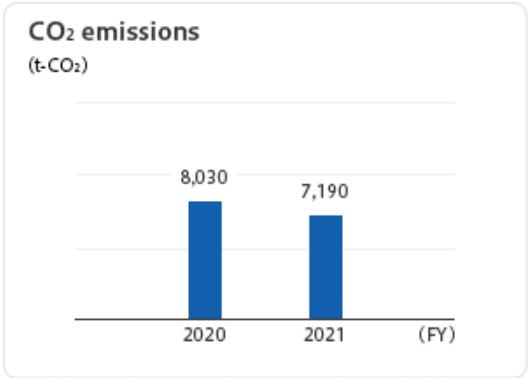


Kuritec Service: CO_2 Emissions Reduction Case Study

Kuritec Service Co. Ltd. helps improve productivity in the semiconductor manufacturing process by using tool cleaning technology and surface treatment technology to clean component parts used to build semiconductor manufacturing equipment and to improve durability of the surfaces of component parts. CO_2 emitted by Kuritec Service derives mainly from electricity consumed by production equipment, including the clean rooms* of its tool cleaning plant, and by offices. Kuritec Service took initiatives to reduce CO_2 emissions, introducing LED lighting in its plant as well reducing the number of air conditioner units in operation and optimizing air temperatures at night when employees are gone, while maintaining clean room cleanliness. The result was a 10% reduction in CO_2 emissions year on year.

* Rooms where air cleanliness is ensured. Since semiconductor manufacturing equipment is installed in clean rooms, Kuritec Service also cleans parts in clean rooms. To regulate air cleanliness, clean rooms must be constantly ventilated and the air filtered to remove fine airborne particles.

CO_2missions at Kuritec Service Co., Ltd. (t-CO_2)

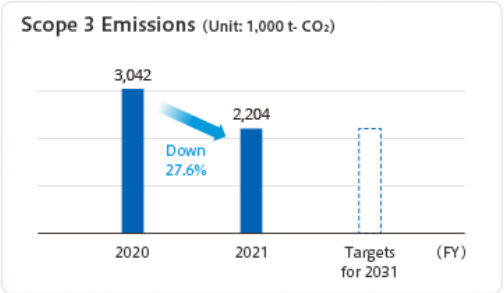


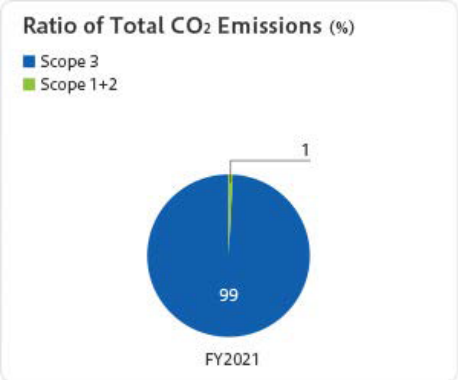
Scope 3 Emissions Data Account and Initiatives

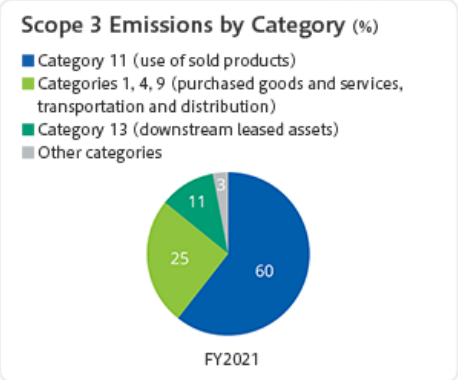
The Kurita Group defines products, technologies or business models that make significant contributions to water-savings, CO_2 emissions reduction and waste reduction compared with previous levels as “CSV businesses.” As one of the priority measures of the MVP-22 plan, “Development of CSV business” is implemented in conjunction with the management plan. In addition, given that Scope 3 emissions account for 99% of the Group’s total emissions in the Scope 1-3 categories, “Contribute to reduction of Scope 3 emissions in the Kurita Group” was added to the evaluation items for CSV businesses from fiscal 2021, in order to increase the competitiveness of CSV businesses.
In fiscal 2021, we attained our target for Scope 3 emissions ahead of plan. Emissions were reduced by 27.6% compared with the previous fiscal year, versus our goal of 27.5% by fiscal 2031. This was achieved due to a decline in emissions in Category 11 (use of sold products). Category 11 emissions fluctuate in line with trends in project orders, so we intend to assess and analyze trends going forward and determine whether targets for Scope 3 emissions need to be revised.

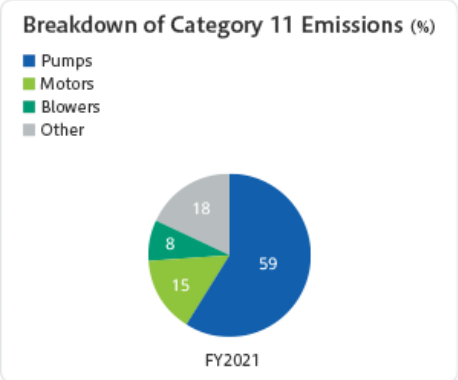
Breakdown of Scope 1-3 Emissions

	CO_2missions (1,000 t)	
	FY2020	FY2021
Scope 1	9	10
Scope 2	26	23
Scope 3	3,042	2,204
Scopes 1 + 2 + 3	3,077	2,237









Participation in the Japan Business Federations' Challenge Zero program

Kurita is taking part in Challenge Zero, an initiative run by Keidanren (Japan Business Federation) to develop innovative net zero greenhouse gas emission technologies. As of December 2020, 174 companies and groups had signed up to the initiative, aiming to rapidly achieve the net zero greenhouse gas emissions targets in the Paris Agreement.

Participation in the Japan Society of Industrial Machinery Manufacturers' Basic Environmental Action Plan

Kurita Water Industries participates in the basic environmental action plan of the Japan Society of Industrial Machinery Manufacturers, which is working on countermeasures for global warming. We report regularly on the status of our response to climate change.

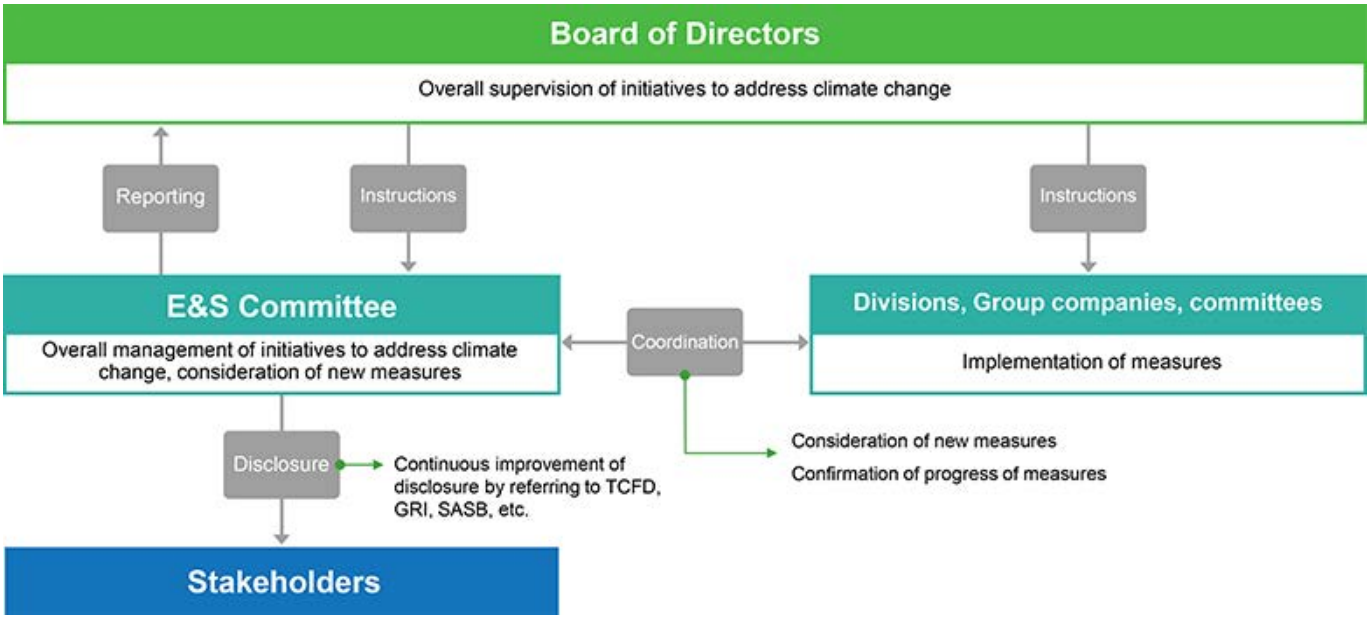
Initiatives to Address Climate Change

Basic Concept

The Kurita Group views climate change as an urgent issue that needs to be addressed globally, and based on the TCFD Recommendations, the Kurita Group will continuously reduce GHG generated by our business activities and contribute to reducing GHG emissions for our customers through our business activities.

Promotion System

The Kurita Group has established the E&S (Environment & Social) Committee, which is chaired by a Managing Director of the Company, as an organization to oversee Kurita Group initiatives for addressing climate change. The Board of Directors, which is responsible for overall supervision of initiatives to address climate change, receives reports from the E&S Committee, in principle twice a year, and decides on necessary measures.



Measures Based on Opportunities and Risks

Based on the two scenarios (1.5°C and 4°C)*1 outlined in IPCC SR1.5 and IPCC RCP8.5, the Kurita Group assessed short-, medium-, and long-term*2 risks, and opportunities and business impact, using the two axes of "likelihood of occurrence" and "impact." Measures were then formulated for the Kurita Group.

*1 Scenarios predicted by the Intergovernmental Panel on Climate Change (IPCC): the scenario of a 1.5°C temperature increase from pre-industrial levels and the scenario with the highest temperature increase.
*2 We set the time frames as short term (1-3 years), medium term (3-5 years), and long term (5-20 years).

● Risks ● Opportunities

Type	Details of risks & opportunities	Kurita Group measures
Policy and Legal	● Introduction or increase of carbon tax ● Regulations for products and services with high GHG emissions ● Dissemination of supportive policy incentives to the conversion to energy with low GHG emissions	▪ Low-carbon products and services by utilizing digital technology and reviewing designs, etc. ▪ Reduction of Scope 1 and 2 emissions by switching to alternative fuels and renewable energies ▪ Development and expansion of renewable energy-related businesses such as biomass power generation
Technology	●● Substitution of existing products and services with lower emissions options	
Market	● Decreasing demand from fossil fuel-related sectors ● Increased demand in electronics industry due to the acceleration of DX ● Soaring costs of raw materials and energy	
Physical Risks	● Increasing factory shutdowns and construction delays due to extreme weather events such as cyclones and floods ● Increasing operating rate of cooling equipment	▪ Continuous strengthening of business continuity in preparation for natural disasters such as flood control
Resource Efficiency	● Dissemination of efficient production and distribution processes ● Reduction of water usage	▪ Utilization of digital technology and development of low-power technology ▪ Development and expansion of renewable energy-related businesses such as biomass power generation
Energy Sources	● Dissemination of energy with low GHG emissions ● Conversion to distributed energy resources	
Products & Services	● Increasing demand for products and services with low GHG emissions ● Increasing diverse technical needs for reducing GHG emissions	
Resilience	●● Substitution and diversification of fuel and water resources	

Metrics and Targets

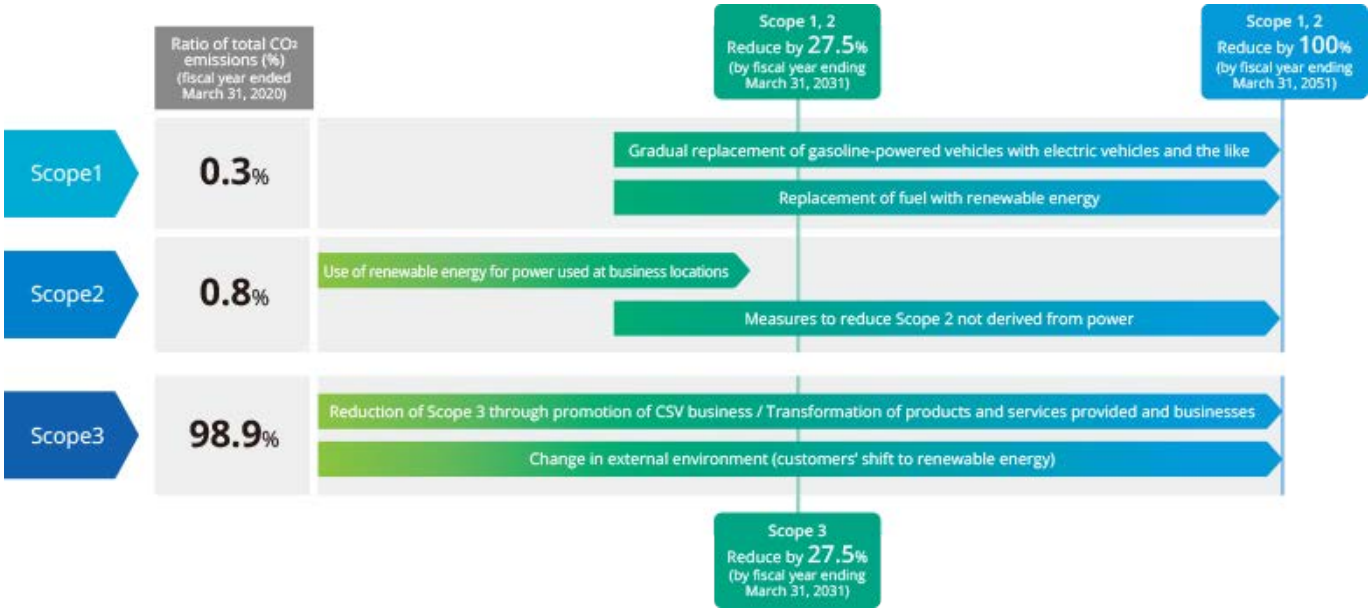
To promote CSR initiatives, the Kurita Group has set out seven priority themes in its Group-wide CSR Policy. In Theme 5, which deals with climate change issues, to align with the Paris Agreement, we have set the "Well-below 2℃ standard" as a long-term target using fiscal 2020 as the base year according to the method indicated by SBTi*, and we are working to reduce Scope 1, 2, and Scope 3 emissions.

* An initiative that encourages companies to set reduction targets consistent with scientific knowledge, with the goal of limiting the increase in global average temperature caused by climate change to well below 2°C above pre-industrial levels.

Priority theme in CSR Policy	Indicator	Year ending March 31, 2023	Long-term targets	
			Year ending March 31, 2031	Year ending March 31, 2051
5. Realize sustainable energy use	CO_2 emission reductions at customers – CO_2 emissions from our business activities	10,000t	—	—
	Scope 1 and 2 emissions reduction (Reduction rate from Year ended March 2020)	—	27.5%	100%
	Scope 3 emissions reduction (Reduction rate from Year ended March 2020)	—	27.5%	—

Schedule for Achieving the Targets

The Kurita Group's CO_2 emissions in fiscal 2020, the base year for the metrics, were approximately 1% for Scope 1 and 2 and 99% for Scope 3. Scope 1 and 2 are mostly derived from Scope 2 electricity. We will therefore promote the switch to electricity derived from renewable energy and gradually switch from gasoline cars to electric cars.
In Scope 3, about 70% of the emissions are from Category 11, "Use of sold products (mainly rotating machinery such as pumps used to pump water)." To maintain a balance with increasing our competitive strength, the Kurita Group will use its CSV business structure to provide low carbon solutions to our customers.



Reduce Waste

The Kurita Group Approach

The Kurita Group needs to make effective use of limited resources in order to conduct its business activities sustainably. Therefore, the Group is working to reduce the amount of waste (including hazardous or toxic waste) generated by its business activities, while making efforts to convert it into valuable material and to recycle it.
For our customers, we propose technologies for making use of waste as a resource and for reducing the amount of waste generated. Through these activities, we aim to reduce waste for society in general.

Contribution to Achieving the SDGs

Targets and Achievements

The Kurita Group aims to achieve a reduction of environmental impact through its business that offsets and even exceeds the environmental impact generated by its business. To this end, we have set targets for the "Waste* reduction at customers – Waste* generated from our business activities." We will continue to measure these actual values going forward values.

	Target for FY2023	Achievement in FY2021
Waste* reduction at customers – Waste* generated from our business activities	450,000 t	212,000 t

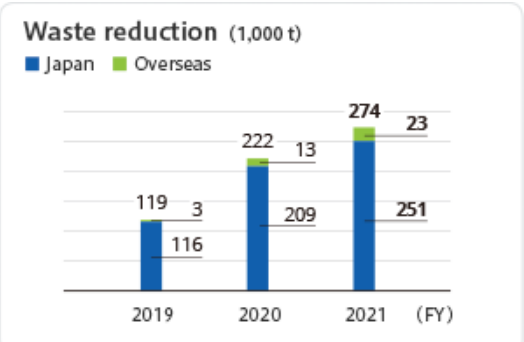
* including hazardous or toxic waste

With Customers

Waste Reduction at Customers' Plants and Business Sites

The graph shows the performance of waste reduction at customers' plants and business sites by means of proposals of the Kurita Group. These results are mainly due to conversion to wastewater treatment facilities that generate little excess sludge and reduction of waste volume by dehydrating agents and dehydrators.

Environmental Improvement of Customers' Operations

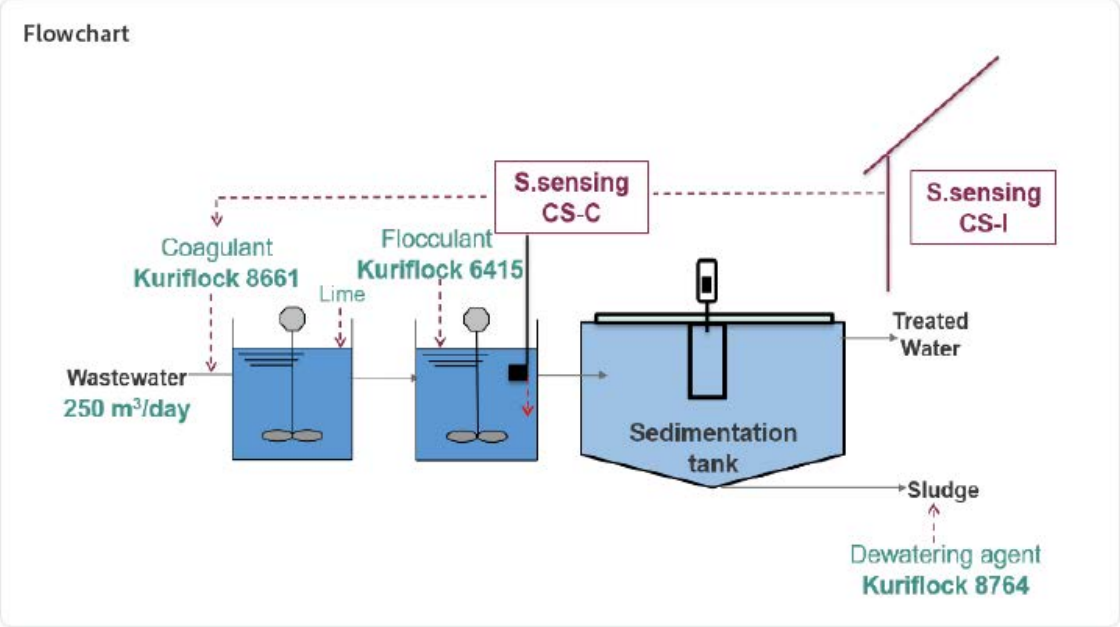


Customer Example

Starwood Forest Products: Environmental Improvement Case Study (Project by Kurita Europe)

Starwood Forest Products AS is a wood processing company headquartered in Turkey. Its main products are wood board and impregnated paper*. Guided by its motto “Infinite Respect to the Environment,” Starwood has gained ISO 50001 Energy Management System and ISO 14001 Environmental Management System certification and is working to improve environmental performance. The company has also installed electrostatic filters to remove dust from the air in its facilities as part of its emphasis on employee working conditions and the environment.
To reduce industrial waste, Starwood incinerates sludge generated by its wastewater treatment facilities. However, the customer wanted to cut the volume of sludge in order to further reduce industrial waste and minimize energy used in the incineration process. A large amount of the sludge originates from water treatment chemicals (coagulants and flocculants) that is added to the wastewater as part of the treatment process. To address that issue, Kurita Europe GmbH (KEG) developed a proposal to monitor flocculant levels in real time using laser-based S.sensing CS technology. KEG also offered its Kuriflock water treatment chemicals as part of the package. The system optimizes chemical dosage levels and monitors water discharge quality while also reducing the volume of sludge.
After adopting the proposal, Starwood was able to cut coagulant usage by 20% and reduce industrial waste by around 21 tons per year. The system also automatically adjusts flocculant treatment in response to wastewater quality, helping to stabilize wastewater treatment and reduce manpower needed for system operation.

* Paper impregnated with resin.

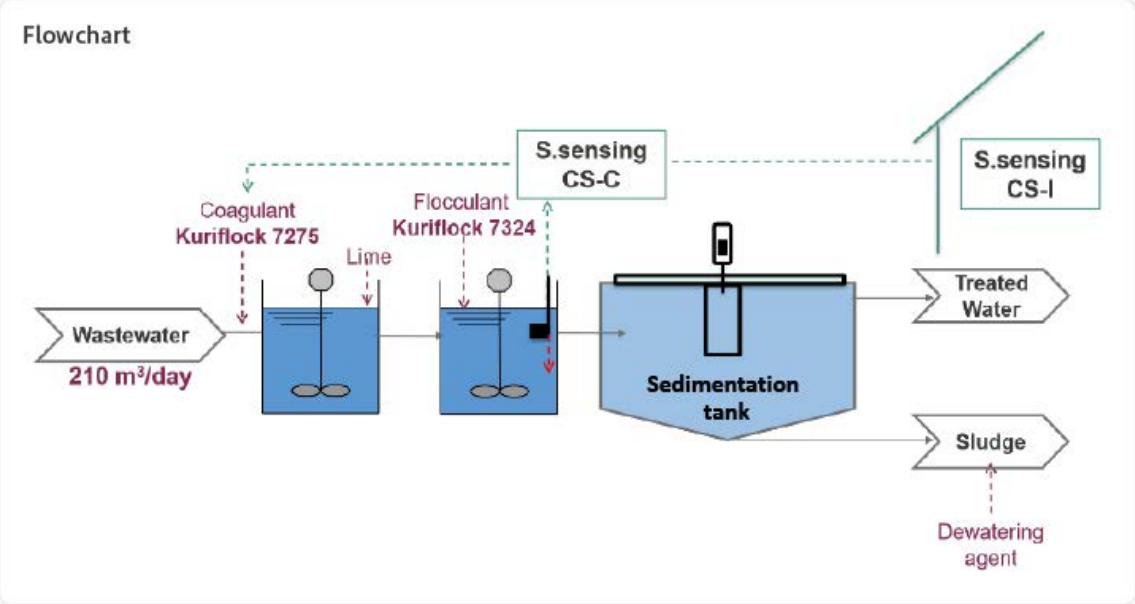


Voice of the Customer

The online monitoring and control of the wastewater treatment facilities proposed by KEG allowed us to significantly reduce both the amount of coagulant additives and the amount of sludge derived from the coagulant. The system also operates smoothly and properly in pH conditions ranging widely from 6 to 9, and has yielded an improvement in effluent quality, including a 15% reduction in chemical oxygen demand. In addition, since manual control is no longer necessary, manpower needed for system operation at the wastewater treatment facilities has been shortened, while the sludge water content has decreased, resulting in smoother dehydration and incineration processes. (Mr. Yusuf Uzunoğlu)

Nissan Zona Franca Factory (Barcelona): Environmental Improvement Case Study (Project by Kurita Europe)

The Nissan Zona Franca Factory (Barcelona) is one of the Nissan Group's European production sites. Based on its ISO 14001 environmental certification, the factory carries out environmental improvement activities that involve the whole workforce. To achieve Nissan's environmental goals, employees at the factory receive pocket-size booklets with a checklist of environmental best practices and undergo rigorous environmental training.
Like other automakers in Europe, Nissan's wastewater treatment processes involve hand samplings, laboratory analyses, and visual control of discharge, as well as higher-than-needed "just-in-case" additives of water treatment chemicals (coagulants and flocculants). This approach has led to an increase in the volume of sludge derived from such chemicals as well as unstable wastewater treatment.
To tackle those issues, Kurita Europe GmbH (KEG) developed a proposal to appropriately monitor and control wastewater treatment facilities online using its S.sensing CS technology. After adopting the proposal, the factory was able to reduce manpower in wastewater treatment facility operations and stabilize water quality. The system also reduced coagulant volume by 30% through optimized product control and cut industrial waste by around 21 tons annually.



Voice of the Customer

Mr. Jorge Jiménez

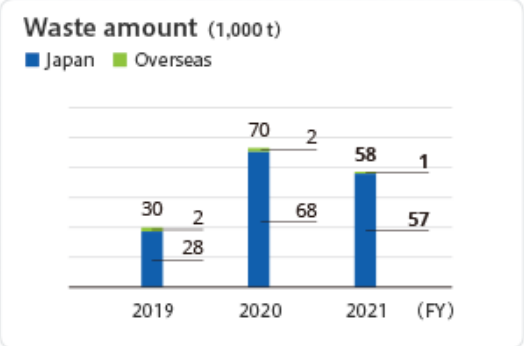
This project received a letter of reference from the customer.

Internal Environmental Improvement Activities

Reduction of Internal Waste

Based on the characteristics of each company and business site, the Kurita Group selects the items that are strongly correlated with waste emission volume, such as production volume, net sales, or site area, as the denominators for a per-unit measurement of waste emission volume, then set about reducing this. The Group has been aggregating the total volume of waste at construction sites of the Company and domestic group companies since fiscal 2020.

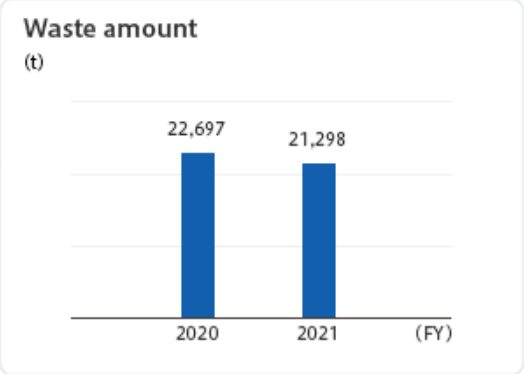
Internal Promotion of Environmental Improvements



Kurita Water Industries: Waste Reduction Case Study

The Kameyama Sub-branch of Kurita Water Industries Ltd. is one of the sites in the ultrapure water supply business. Through this sub-branch, the company supplies ultrapure water for customer production plants, receives wastewater used in various manufacturing processes at its wastewater recovery facilities, and reuses most of this as raw water for ultrapure water. Wastewater that is difficult to recover is detoxified using wastewater treatment facilities and then discharged outside the plant. In this process, impurities in the wastewater are aggregated and dehydrated to become waste.
The Kameyama Sub-branch has taken measures to reduce waste, including adjusting which of multiple wastewater treatment facilities receive wastewater according to its properties, optimizing the volume of water treatment chemicals added, and reducing sludge moisture content at dehydration facilities. As a result, the amount of waste was down by 6% year on year.

Change in Amount of Waste at Kameyama Sub-branch (t)



Advance Industrial Production Technologies

The Kurita Group Approach

The Kurita Group considers it necessary to achieve both industrial development and preservation of the global environment if humanity is to enjoy a prosperous lifestyle in perpetuity. The Group will introduce water treatment into the manufacturing processes for various products, helping to improve productivity and product quality. We will also contribute to solutions for environmental issues associated with industry development.

Contribution to Achieving the SDGs

Targets and Achievements

The Kurita Group conducts basic research on water treatment in the form of analysis and fluid and process analysis, which forms the foundation of its products and services. We are also working to develop products and technologies that contribute to solving issues such as water savings and energy savings for customers and society.

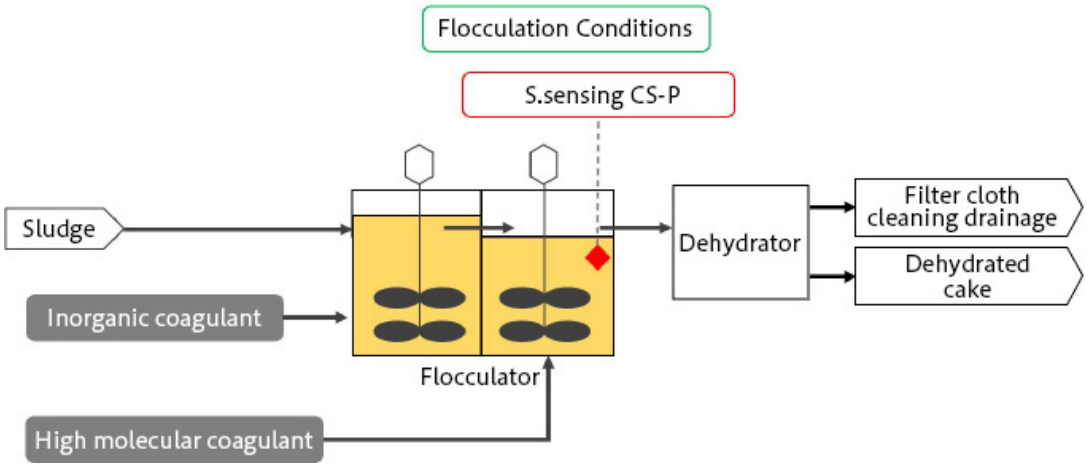
	Target for FY2023	Achievement in FY2021
Proportion of themes falling into “Contribution to improvement of production process” to product development themes	35%	39%

A Novel Automatic Controlling System Saving Labor and Stabilizing the Sludge Dewatering Process is Developed

Wastewater treatment facilities treat wastewater from manufacturing plants to a level that will not adversely impact the ecosystem before it is discharged to rivers. Sludge* generated in this process is dewatered and treated as waste. It is necessary to operate the sludge dewatering process properly in response to flocculation conditions, especially at plants where sludge properties change along with the change of wastewater properties such as food plants that change production items frequently. Automation of the dewatering process has been desired by customers in terms of saving labor and stabilizing sludge treatment. However, most systems relied on experienced human operators to adjust chemical dosage to deal with sludge conditions that fluctuated daily, and automation remained unestablished.
Kurita Group has developed an automatic chemical dosage controlling system for the sludge dewatering process that enables stable treatment by monitoring flocculation conditions using Kurita’s unique sensor. The system enables the treatment of sludge similar to operation by skilled operators. Therefore, this novel system contributes to saving labor and stabilizing the sludge dewatering process.

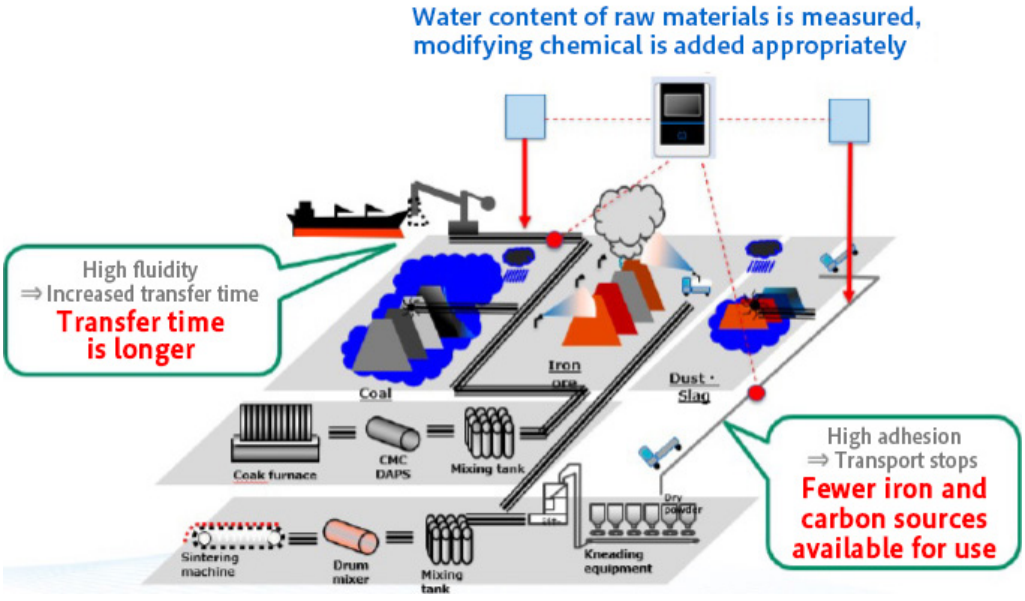
* Semi-solid slurry containing large amounts of contaminants removed from wastewater and microorganisms that degrade organic substances in wastewater.

Detects flocculation conditions with a proprietary sensor



Development of a Raw Material Modification Solution to Help Solve Problems Caused by Water Content in Steelmaking Raw Materials

A range of problems can occur at steelworks due to the water content of iron ore, which is the raw material for steelmaking, or of coal used in reduction processes, or dust or other elements. When water content increases, the fluidity of the iron ore or coal also increases, which leads to longer transport times when importing and unloading raw materials brought in by bulk carriers from overseas. Another problem is blockage of the storage tank in the raw material transport line for dust and other elements.
The Kurita Group developed a modifying chemical to make steelmaking raw materials with high water content easier to handle as well as a solution that measures the water content of steelmaking raw materials and adds the modifying chemical accordingly. This makes it possible to reduce CO_2 emissions by shortening the time needed to transport iron ore from the bulk carrier to the storage yard. Moreover, by enabling the stable use of dust and other elements that can be reused as sources of iron or carbon, fewer first-use steelmaking raw materials are needed, which also makes lower CO_2 emissions possible.



* Kurita has applied for a patent for a chemical injection system controlled through a combination of a water content meter and various chemicals. (as of September 2021). Please see here for more information about this solution (member registration required).

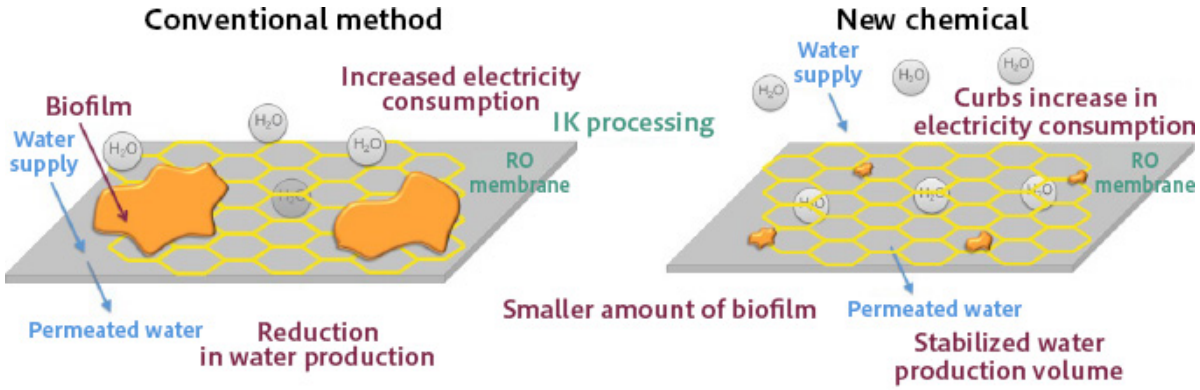
Development of Organic Contamination Prevention Technology that Allows a Wider Range of Applications for RO Membranes

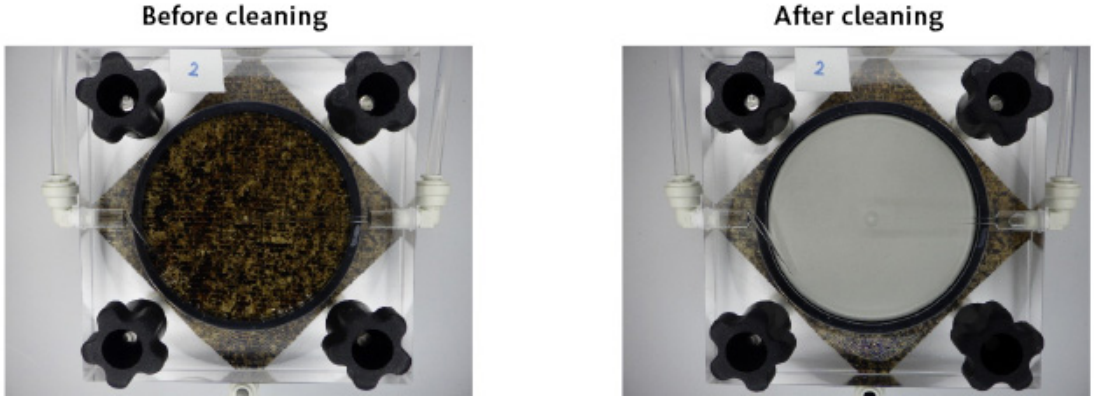
RO*1 membranes remove and filter foreign substances in water using the principle of reverse osmosis, and are widely used in seawater desalination, pure water production, and wastewater recovery. In recent years, growing demand for water conservation requires the ability to collect and reuse wastewater with a high concentration of organic matter, something that is difficult for conventional RO membranes. Because organic matter adheres to the membrane surface and microorganisms grow and form a biofilm*2, the membrane becomes blocked. A common solution is to add a biofouling control agent to suppress growth of the microorganisms and to remove deposits by cleaning. If the concentration of organic matter is too high, however, conventional biofouling control and cleaning agents cannot adequately prevent organic or biofouling. This causes several problems. Membrane blockage increases electricity used by the pump. Less water is recovered due to the cleaning and replacement of membranes. Finally, more waste is generated.

The Kurita Group has developed a new water treatment chemical for wastewater with a high concentration of organic matter, combining a biofouling control agent that inhibits microorganic activity and kills bacteria and a cleaning agent that is highly effective in removing organic contaminants. Applying this technology makes it possible to stabilize the amount of water recovered by reducing the frequency of RO membrane cleaning, extend the life of RO membranes by keeping them highly clean, and reduce waste associated with cleaning. This technology also allows the application of RO membranes to be extended to wastewater with a high concentration of organic matter, which contributes to the more effective use of water.

*1 RO=reverse osmosis.

*2 An aggregate formed by microorganisms on a solid phase surface.



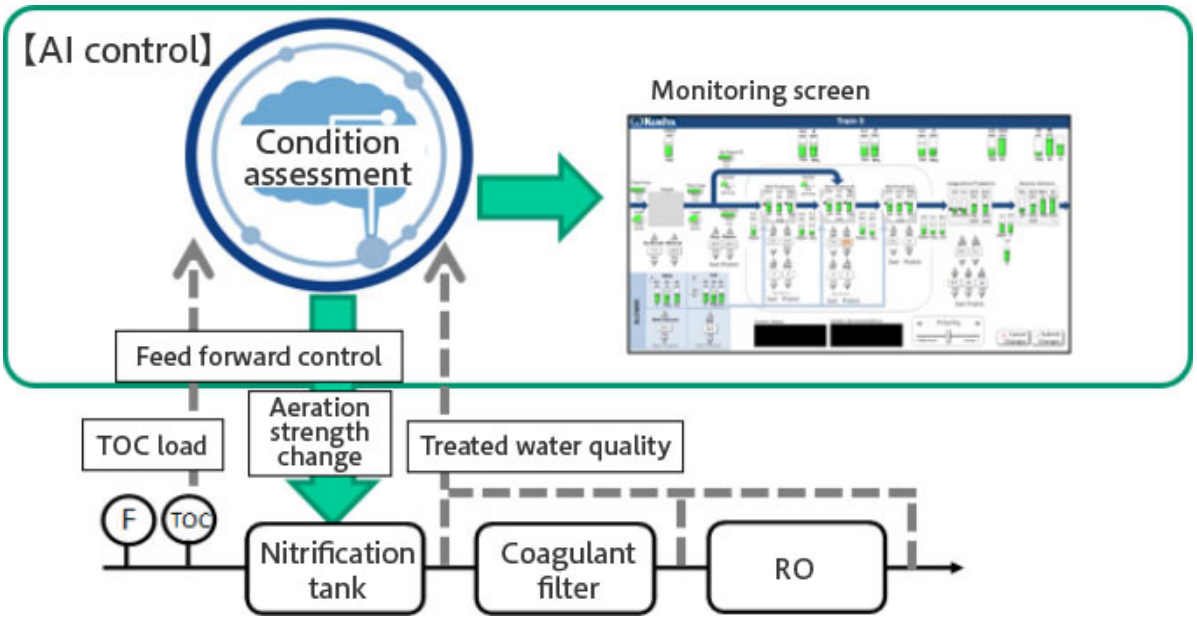


Development of Energy-Savings Technique for Carrier-Type Aerobic Biotreatment Equipment Using AI Control System

Carrier-type* biotreatment facilities utilize microorganic activity to treat plant effluents and other wastewater containing large amounts of organic matter. With aerobic treatment, it is necessary to aerate treatment tanks to sustain microorganic action. Since power consumption of aeration devices accounts for a large proportion of the total energy used by wastewater treatment facility, improving operating efficiency of aeration devices has been an issue in terms of energy savings and cost reduction.

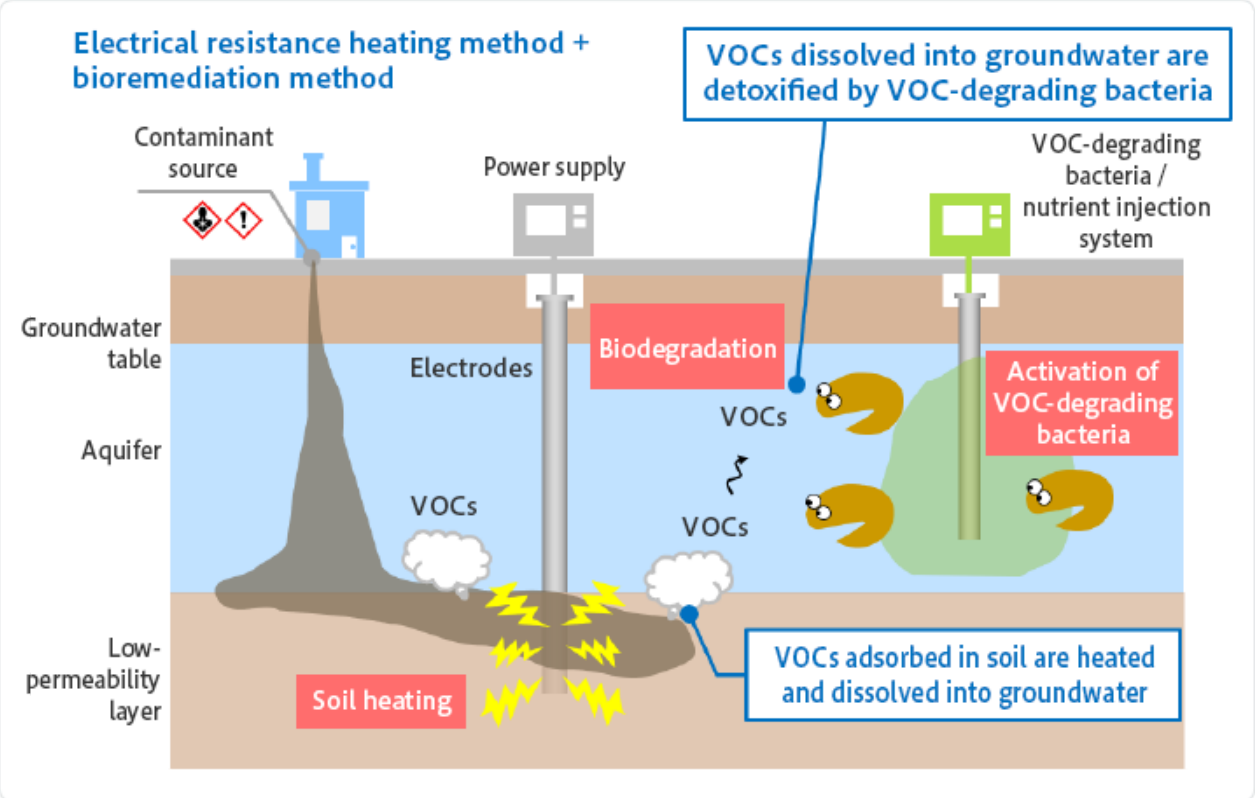
The Kurita Group has developed an AI control-based system that enables optimal aeration device operations. In this system, AI predicts the treated water quality based on the amount of organic matter present, changes in the treatment capacity of the microorganisms, and water quality data, and adjusts aeration levels. This system makes possible consistent wastewater quality and lower electricity usage, as well as saving labor, since treatment status can be checked remotely.

* A sponge-like substance that contains microorganisms.



Developed in-situ remediation technique for highly VOC-contaminated soil not requiring excavation or dismantling

On land in industrial areas, harmful chemicals and wastewater used in the past may permeate the ground surface and remain in the soil, so that when the owner expands or renovates the facility or sells the land, it may be necessary to clean up such pollutants. Since it is impractical to dismantle a building when a plant is in operation, instead of excavating and removing contaminated soil, in-situ remediation techniques are often used, such as bioremediation that injects microorganisms into groundwater to break down contaminants.
Volatile organic compounds (VOCs), such as tetrachloroethylene and trichloroethylene, are widespread contaminants in industrial areas. The chlorinated compounds, have the property of easily penetrating deep underground, and, when they reach into a low-permeability layer that prevents water movement, they resist being broken down with microbes. Moreover, remediation periods can be prolonged since the VOCs dissolve into groundwater gradually.
The Kurita Group has significantly reduced the remediation period by combining an electrical resistance heating method* that accelerates the volatilization and separation of VOCs from the low-permeability layer, with Kurita Bioremediation-PB, which breaks down separated VOCs through microbial action.
* Technology developed by Shimadzu Corporation.



Building Good Relationships with Suppliers

The Kurita Group Approach

In order for the Kurita Group to fulfill its social responsibilities, its suppliers who provide raw materials, supplies, and perform services also need to cooperate with the Group's CSR initiatives.
The Group has newly formulated the Kurita Group Procurement Policy, as a common policy on procurement for the Group, as well as the Kurita Group CSR Procurement Guidelines to set out the Group's expectations of suppliers, such as respecting basic human rights, preserving the earth's environment, and complying with laws, regulations, and social norms.

The Kurita Group Procurement Policy

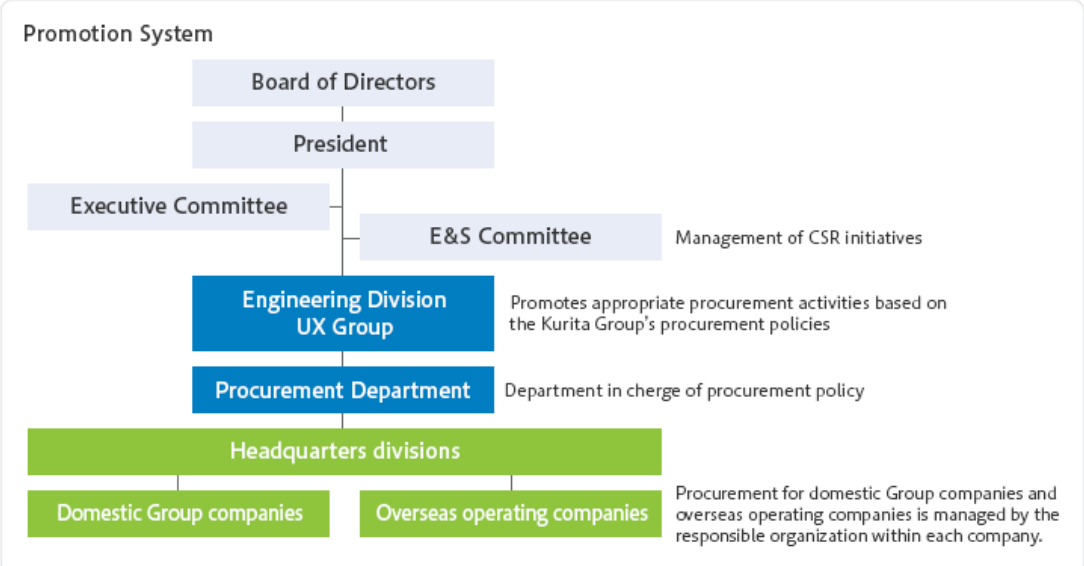
The Kurita Group CSR Procurement Guidelines

Policy

- To conduct transactions in consideration of basic human rights, occupational health and safety, and preservation of the global environment in compliance with laws and regulations as well as social norms;
- To provide fair and equal business opportunities to the suppliers, to conduct transactions in reliable quality, at competitive and reasonable prices, based on appropriate specifications and standards;
- To procure materials and services that enables continuous and stable supply of our products and services to customers, and contribute to the sustainable development of the society; and
- To forbid entering into any transaction that would benefit antisocial forces or terrorist groups.

Promotion System

The Kurita Group is undertaking appropriate procurement activities in line with the Kurita Group Procurement Policy. As our system for promoting these activities, the Group Manager of the UX Group, Engineering Division is in charge of promoting procurement activities based on the policy. The policy is promoted at Group companies in Japan and overseas through the business management divisions of their respective supervising headquarters divisions.



Main Initiatives

Formulation of Procurement Operation Regulations

Based on the Kurita Group Procurement Policy the Company has formulated Procurement Operation Regulations. These set out the implementation of appropriate procurement activities that emphasize social responsibility as a regulation related to supplies, equipment, labor and services required in the Company's business activities.

The Kurita Group Procurement Policy

CSR Requirements for Suppliers

The Kurita Group considers it vital to obtain cooperation from suppliers in order to conduct business in accordance with its CSR Policy across the entire supply chain. To this end, we have established the Kurita Group CSR Procurement Guidelines, and we have asked suppliers to understand and implement the Kurita Groups policies regarding matter such as human rights, safety, and environmental improvement, and the response that we require of them, and to provide appropriate information. In particular, we ask major suppliers to conduct a self-evaluation based on the guidelines and to implement improvement measures. From fiscal 2019 to fiscal 2021, we requested suppliers for self-evaluation of 28 items in total related to human rights, occupational safety and health, the environment, compliance with laws and regulations, quality and safety, information management, and relations with anti-social forces. We received results from suppliers in Japan and overseas that account for 57% of the order amount of whole group, and it was confirmed that the average value of all suppliers satisfied the Group's standards in all items. On the other hand, for the suppliers who did not meet the standards of some items, we implemented individual measures towards improvement.

CSR Policy

The Kurita Group Procurement Policy

Supplier Questionnaire Survey

The Company requires its suppliers to understand its compliance activities such as observing the Subcontract Act and confidential information management, and confirms the appropriateness of its transactions with them by conducting Surveys on Transactions with Kurita Water Industries Ltd. This survey targets suppliers who fall under the category of subcontractors as provided in the Subcontract Act and is conducted once a year by the E&S Committee, which is in charge of compliance activities. In the event that status checks or improvements are deemed necessary after responses are confirmed, the E&S Committee instructs the relevant department to respond and conducts a follow-up check on the result of the response.
From fiscal 2021, we expanded the scope of the survey. In addition to the Company's business partners, the scope now includes the business partners of Kurita Group companies in Japan. We worked to use the survey to understand and improve the actual status of transactions.

Status of survey implementation

	FY2019	FY2020	FY2021
Number of companies surveyed	995	1,058	1,286
Number of respondents	680	719	881
Response rate (%)	68.3	68.0	68.5

Public-Interest Whistle-Blowing and Helpline

The Company has created Public-Interest Whistle Blower Protection Rules and strives to quickly discover misconduct. In accordance with these rules, an advising and reporting liaison that makes use of an independent organization was established, and employees of the Company and its domestic Group companies, as well as dispatch staff and suppliers, can use the liaison. A “Supplier Helpline” was also launched so that suppliers can seek advice on issues such as concerns and worries they have about business with the Kurita Group.

Status of Use of Supplier Helpline

	FY2019	FY2020	FY2021
Number of cases	0	1	0

Helpline pamphlet

Status of Business Dealings

The status of business dealings with the Company's suppliers is as follows.

	FY2019	FY2020	FY2021
Number of suppliers	2,354	2,326	1,806
Transaction amount (Millions of yen)	98,443	91,369	70,198
Japan (%)	90.4	91.8	90.9
Overseas (%)	9.6	8.2	9.1

Communication with Suppliers

The Company provides opportunities for communication with suppliers and strives to strengthen its partnerships with them. The main initiatives conducted in fiscal 2021 were as follows.

Name	Purpose / Details	Number of participating companies
Roundtable discussion with suppliers	Explanation of forecast for orders in the following fiscal year and explanation of new initiatives and policies	22
Liquid transportation operation training session	Safety course regarding liquid transportation operations	8
Safety events	Safety lectures, and explanation of revised safety rules	258
Interviews based on procurement guidelines	Support for improving procurement guideline initiatives	5

Third-Party Opinion/Response to Third-Party Opinion

Evaluation

Kurita's value creation story presented in its Integrated Report 2021 is the story of how profits are increased by maximizing customer value and creating shared value with society on the basis of "water knowledge." The story illustrates how the Kurita Group will go one step further from providing customer value to contributing to a sustainable society by maximizing customer value and creating shared value with society through water. The direction and the way forward are crystal clear; we see this as a wonderful embodiment of the corporate philosophy. The story also presents CSV business initiatives, the specific measures the Group has been taking to maximize customer value. Based on the belief that a business with high social value must also generate good profits, the Group aims to promote CSV business to ensure the sustainable development of both the Kurita Group and society. This is one of the priority themes set out in the medium-term management plan "Maximize Value Proposition 2022 (MVP-22)," which was further strengthened in the second half of the five-year plan. The Kurita Group's disclosure reveals that indicators for creating social value are fully incorporated into management strategy, which shows the company's strong commitment to integrating sustainability and management strategy. It is only the Kurita Group that is able to create value in various ways through "water," and we expect that they will do so on an even larger scale going forward.

This year, a new target, "Number of people that can benefit from improvement in water resources," was added to "4. Solve issues related to water resources," one of the company's themes for growth opportunities. This is a global contribution to society for the Kurita Group as a co-founder of the Water Resilience Coalition and is expected to be a long-term CSR activity for the Group.

In addition, as a response to climate change issues, the Kurita Group has been working to reduce Scope 3 emissions, which account for most of its CO_2 emissions, and is currently considering merit-sharing to increase the corporate value of its customers. For these efforts, the Group should consider the establishment of a mechanism such as "impact assessment accounting," which converts the intangible value created into monetary value. This mechanism would spur further evolution in the company's CSV business for maximizing customer value and has the potential to create a "CSV-ESG business" that would provide the value of further increasing customer value.

Regarding environmental performance data, its scope extends to the entire Kurita Group, including the U.S. operating company that became a consolidated subsidiary in fiscal 2021, and a system has been created that provides a complete picture of the Kurita Group. However, information related to the "S" in ESG (social information), is only applicable to Japan or to the parent company. Different countries have different laws, and this can have a large impact on social information, so management can be difficult in certain respects, but from the standpoint of stakeholders, information needs to be disclosed in order for them to understand that the Kurita Group is working as one on a global scale and to gain a full picture of the Group.

We conducted a basic check of the collection of environmental performance data and found it to be free of material errors.

Dr. Kokubu is Professor of the Graduate School of Business Administration, Kobe University. He completed his PhD in Business Administration from Osaka City University. He was Dean of the Graduate School of Business Administration, Kobe University from 2014 to 2016 and Vice President of Kobe University from 2019 to 2021. Dr. Kokubu is Chairman of MFCA Forum Japan and Chair of ISO/TC207/SC1WG13. He has published many books and articles including Beyond Accountability toward Management Ethics (Yuhikaku Publishing Co., Ltd.), and Emergent Responsible Management (Nikkei Publishing, Inc.).

Katsuhiko Kokubu

Response to Third-Party Opinion

Thank you, Professor Kokubu, for your invaluable comments.
The Kurita Group puts CSR at the core of management in order to fully embody our corporate philosophy, which is: “Study the properties of water, master them, and we will create an environment in which nature and man are in harmony.” Fiscal 2021 was a year of further progress on creating and maximizing shared value for the Kurita Group and society, one of the objectives of our initiatives related to CSR. To realize this objective and strengthen initiatives to achieve our “MVP-22” medium-term management plan, which began in fiscal 2019, we added profitability of the CSV business, one of the plan’s priority measures, as a new management indicator.

In addition, we are beginning long-term initiatives to address global social problems. We joined the Water Resilience Coalition, a global initiative to protect and restore water resources, as a Leadership Committee member. We have set medium- and long-term targets related to protection of water resources and are utilizing the expertise of the Kurita Group to create a comprehensive platform for gathering information and developing specific solutions that is accessible to all people involved in solving water resource-related problems. As another initiative, to address climate change, long-term targets for reducing CO_2 emissions have been set on the basis of an analysis of the risks and opportunities of climate change and its impact on business strategy in line with the TCFD Recommendations.
At the same time, as pointed out by Professor Kokubu, an issue for the Kurita Group in its initiatives related to CSR is strengthening disclosure of information related to the “S” in ESG, based on the expectations and concerns of stakeholders. As the executive general manager of the Global Business Division, I’m in charge of our overseas subsidiaries, and as chairperson of the E&S Committee, I’m responsible for overseeing our individual activities on CSR, and we certainly plan to further promote initiatives on a global basis. The concept of a “CSV-ESG business” like that suggested by Professor Kokubu is currently being considered by the E&S Committee, and we thank him for further clarifying the ideal we are pursuing. We will continue considering systems for promoting the tangible and intangible value created by the Kurita Group to customers and society.
We at the Kurita Group are redefining the nature of our business from the standpoint of social issues to provide new value to customers and society through water. Pivoting on the value creation story we enacted in fiscal 2021, we will pursue business with a focus on social value and thereby grow sustainably with society over the long term.

Yasuo Suzuki
Managing Director and
Executive General Manager of
Global Business Division
Chairperson of the E&S Committee

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Please contact us with any inquiries regarding this report, using the Inquiries & Request form on our website.

https://www.kurita.co.jp/english/