Summary of Environmental Action

Message from the Senior General Manager of the Manufacturing Division

Tomozo Ogawa
Executive Officer
Senior General Manager of Manufacturing Division & General Manager of Process Management Department
RIKEN TECHNOS CORPORATION

The Manufacturing Division will deepen the understanding of sites about the RIKEN Standard—which forms the foundation of manufacturing at RIKEN TECHNOS—to improve manufacturing quality.
In addition, within Japan, we will work on reducing manpower and production costs by introducing automated equipment for model lines and systems that predict and manage equipment failures, and at the same time, conducting reviews for the utility equipment of each factory.
In terms of environmental management initiatives, we will continue to work on energy conservation, industrial waste reduction, and appropriate management of chemical substances.

Environmental Targets and Performance in FY2020

RIKEN TECHNOS CORPORATION promotes improvement activities by setting yearly environmental targets consistent with the business environment, based on the company's Environmental Policy. We also make companywide cross-sectional efforts, under the main themes of promoting reduction of carbon dioxide (CO_2) emissions, reducing the amount of our industrial waste output, and reinforcing chemical substance management.
In FY2020, a total of 175 targets were set across various divisions in the entire company, and 117 (67%) of them were achieved.

(1) Reduction of Energy Use

Number of Targets Set	Achieved Targets	Targets (8% reduction compared to FY2012)		Results
78	53 (68%)	(1) Reduction of electricity usage per gross production (2) Heavy oil usage per gross production (3) CO_2 emissions per gross production (4) Total CO_2 emissions	0.706 MWh/t or less 0.035 kl /t or less 0.426 t-CO_2 or less 36,708 t-CO_2 or less	(1) 0.721 MWh/t (objective not achieved) (2) 0.026 kl /t (objective achieved) (3) 0.432 t-CO_2 (objective not achieved) (4) 43,879 t-CO_2 (objective not achieved)

(2) Reduction in Industrial Waste

Number of Targets Set	Achieved Targets	Targets	Results
28	12 (43%)	Simple (landfill and incineration) waste volume per gross production: 0.1% or below Total industrial waste volume per gross production: 3.5% or below	Not achieved with 0.14% for landfill and incineration waste volume per gross production. Not achieved with 3.54% for total industrial waste volume per gross production.

(3) ① Reinforcement of Chemical Substances Management and ②Development of Environmentally-friendly Products

Details	Number of Targets Set	Achieved Targets	Targets	Results
① Reinforcement of Chemical Substances Management	33	26 (79%)	Reduction of use of independently specified chemical substances, and development of environmentally-friendly products.	① FY2020 usage of chemical substances designated as Class I under the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Law) decreased by 214 tons (14%) compared to FY2019. ② In FY2020, the sales volume of recycling-friendly materials decreased by 9.5% compared to FY2019.
② Development of Environmentally-friendly Product	22	12 (55%)		

Status of RIKEN TECHNOS Environmental Load

The main types of environmental burdens caused by RIKEN TECHNOS CORPORATION's business activities are due to industrial waste output, greenhouse gas (CO_2) emissions, and the transport and discharge of chemical substances. We are working on the reduction of emissions and proper management of various substances. The following data shows the status of the environmental load of RIKEN TECHNOS CORPORATION (non-consolidated).

CO_2 Load of Products Produced (FY2020)

Input	
Raw materials (including paints)	94,000t
Packaging materials	3,900t
Electricity	65,000MWh
Heavy oil	2,400kl
Tap water	127,000m³
Groundwater	150,000m³
Water for industrial use	31,000m³

Output	
Compound products	64,000t
Film products	13,000t
Wrapping products for packaging	20,430t
Total waste	3,590t
Amount of sewage	294,000m³

Amount of CO_2 emissions (t-CO_2/t)	
Compound	0.19
Film	0.90
Food wrap	0.68

Preventing Stock Pollution and Environmental Pollution

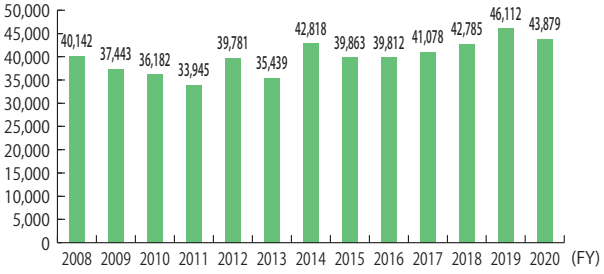
We implement regular measurements of environmental items at each site in accordance with laws and regulations as well as our own regulations monitoring. The items include exhaust gas, groundwater, noise, vibration, bad odors, radiation, and dust, with particular concern for noise pollution. We conduct regular meetings with residents around our sites, in which we disclose results from our environmental measurements and conduct factory inspections in order to promote understanding of RIKEN TECHNOS's business activities.

Saving Energy and Reducing Greenhouse Gas Emissions

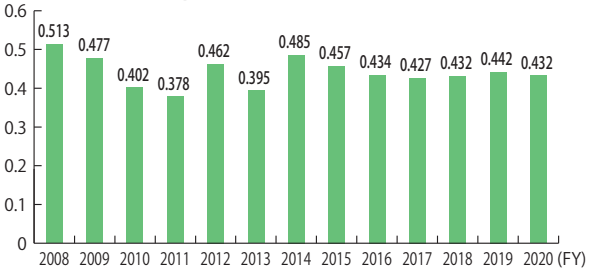
Two RIKEN TECHNOS factories, Saitama and Mie, are designated as Type 1 energy control factories, while the Gunma Factory is designated as a Type 2 energy control factory.
The primary greenhouse gas*1 emitted by our business activities is CO_2.
We promote energy-saving tactics, such as improving the efficiency of operating facilities, using heat storage-type deodorizing furnaces, using demand control*2 for air conditioning, preventing leakage of compressed air and steam for industrial use, and switching to energy-saving lighting.
Over many years, CO_2 emission reduction has been our principal objective. Due to a recent major change in electricity to CO_2 conversion factor, from FY2014, we have made it our target to achieve 1% reduction each year, with FY2012 as the base year, in energy use per gross production. For FY2020, we set a target of 8% reduction compared to FY2012, and with electricity usage per gross production at 0.721 MWh/t, we did not achieve the target of 0.706 MWh/t or less. At the same time, heavy oil usage per gross production was 0.026 kl/t, achieving the target of 0.0351 kl/t or less.
A switch from heavy oil boilers to city gas boilers at the Gunma Factory in December 2015 led to reductions in heavy oil usage and air pollution.
In March 2013, our photovoltaic power plant supplying renewable energy began operation at a site adjacent to the Gunma Factory. In FY2020, approximately 70,000 kWh of power was supplied to the Gunma Factory, with approximately 700,000 kWh sold externally.

Photovoltaic power plant of RIKEN TECHNOS CORPORATION (within the Gunma Factory site)

CO_2 Emissions (t-CO_2)



CO_2 Emissions per Gross Production (t-CO_2/t)



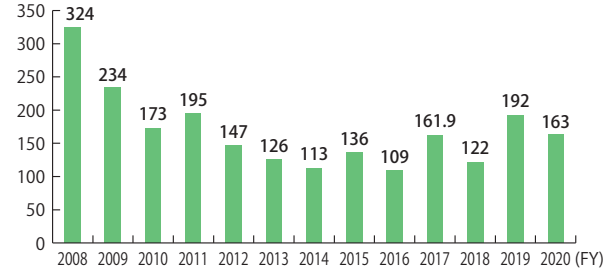
Note: The value is based on emission factors after adjustments from FY2010.

*1 Greenhouse gas is indicated as the quantity of CO_2 calculated to be emitted by consumption of electricity and heavy oils consumed at the Saitama Factory, Mie Factory, Gunma Factory, Nagoya Factory, R&D Center, and Head Office, as well as each sales site. CO_2 emissions from Head Office have been added since 2005, and emissions from each sales site have been added since FY2008. CO_2 emissions from petroleum fuel consumed by logistics are omitted.
*2 Air conditioning demand control is a method of reducing electricity consumption by automatically stopping compressors when a maximum value agreed with the supplier is approached.

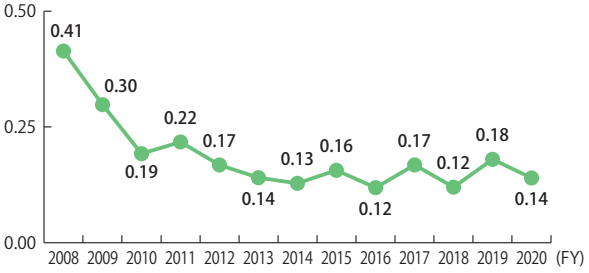
Reducing Industrial Waste

Our company considers the reduction of simple (landfill and incineration) waste generated in the manufacturing stage to be one of the main goals of environmental management activities.
In FY2014, we established the new goals of "reducing simple waste volume per gross production from 0.3% to 0.15% to 0.1% or below, and reducing total waste per gross production from 5% to 4% to 3.5% or below." We are promoting restraint in generating waste by improving yields in our production processes, as well as strictly separating generated waste into material recycling, thermal recycling, Refuse Plastic Fuel (RPF), raw cement material, etc. for conversion to effective use.
The simple waste volume per gross production was 0.14% and we did not achieve the goal. The total waste per gross production was 3.54% and we did not achieve the goal.

Simple Industrial Waste Generated (t)



Total Production Ratio for Simple Industrial Waste (%)



* Sites: Four factories (Saitama, Mie, Gunma and Nagoya), and R&D Center (Tokyo)

Summary of Environmental Action

Appropriate Management of Chemical Substances

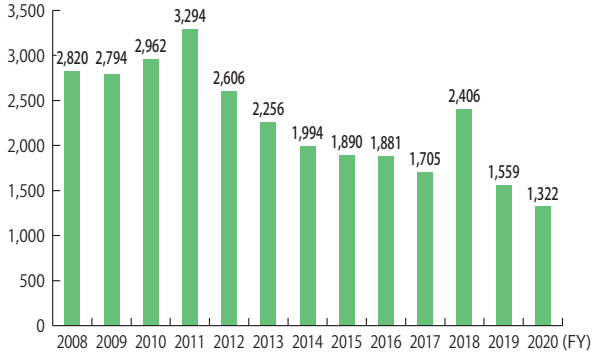
In the past, RIKEN TECHNOS CORPORATION has been managing chemical substances in accordance with laws such as the Chemical Substances Control Law, the Industrial Safety and Health Act, and the Fire Services Act.

In FY1999, a totalization system was established to enable thorough management. In addition, a system was created for responding to the PRTR system of the Act on Confirmation, etc. of Release Amounts of Release of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Law), which came into force in April 2001.

In October 2009, the PRTR Law was amended with changes made to the types of chemicals subject to PRTR, and we acted to respond to the changes.

Consequently, the usage and emission volumes of newly subject chemical substances were totaled beginning in FY2010, and in FY2011, the usage volume of methylnaphthalene contained in A heavy oil was added to the calculation. In FY2011, RIKEN (THAILAND) CO., LTD., a RIKEN TECHNOS GROUP company, was affected by flood disasters and production assistance was implemented in Japan. As a result, the usage volume of chemical substances designated as Class I under the PRTR Law increased dramatically. For FY2020, usage volume was reduced by 14% compared to FY2019. This was mainly due to the reduction in products using DEHP, toluene, and 1,3-dioxolane. In FY2020, we used 28 types of chemical substances subject to the PRTR Law, which was two more than FY2019. Among them, 13 types with usage volume of more than one ton were reported to the Japanese government.

Usage Volume of PRTR Substances (t)



Storing PCB Waste

In July 2001, the Act on Special Measures concerning Promotion of Proper Treatment of Polychlorinated Biphenyl (PCB) Wastes (Special Measures Act on PCB) came into force. The final waste disposal operator is planning the treatment of the 845.5 kg of waste oil containing PCB from Saitama Factory. Treatment of PCB waste stored at the Mie Factory and R&D Center (Tokyo) was completed.

In addition, because there is a high probability that heavy electrical equipment from before 1989 used insulating oil containing small amounts of PCB, we are examining and analyzing all condensers and transformers currently in use.

Site	PCB Wastes	Status of Storage and Treatment
Saitama Factory	Waste oil containing PCB: 845.5 kg (high concentration)	Treatment being planned
	High voltage condensers: 15 (high concentration)	Treatment completed in FY2017
	High voltage transformers: 2 (low concentration)	Treatment completed in FY2015
	Waste water and oil containing PCB: 1,446 L (low concentration)	
Mie Factory	High voltage transformers: 4 (low concentration)	Treatment completed in FY2014
	Waste oil containing PCB: 350 L (low concentration)	
	PCB component wastes: 300 g (low concentration)	
R&D Center (Tokyo)	High voltage condensers: 12 (high concentration)	Treatment completed in FY2013
	High voltage transformers: 1 (low concentration)	
	Waste oil containing PCB: 330 L (low concentration)	
	Wastes containing PCB: 15 kg (low concentration)	

Status of Employees' Environmental Education and Awareness-Raising

Since FY2008, we have made a practice of distributing the "Ecolife Day" questionnaire to our employees and their families about their daily lives in order to raise awareness regarding energy conservation and global warming (reduction of CO_2 emissions). In FY2020, we received many responses from employees and their families (1,155 in winter). The results of the questionnaires showed average CO_2 reductions per person of 1,000 g-CO_2/ day in winter. In addition, we distributed the Sustainability Report to every employee to increase understanding of how results of each individual's activities have an impact on RIKEN TECHNOS CORPORATION as a whole.

Season of Conduct	Participants (persons)	Amount of Reduction (g-CO_2/person per day)
Summer of FY2016	1,267	950
Winter of FY2016	1,360	1,010
Summer of FY2017	1,371	1,020
Winter of FY2017	1,229	1,090
Summer of FY2018	1,261	850
Summer of FY2019	999	1,720
Winter of FY2019	1,138	1,000
Summer of FY2020	1,059	910
Winter of FY2020	1,155	1,000

Environmental Laws and Agreements related to Our Business Activities

We have clarified the environmental laws and agreements to be complied with by each production site and office and summarized them in the Environmental Laws Application Standards, and we stringently comply with environmental laws.

Additionally, we took measures to comply with Saitama Prefecture's Global Warming Countermeasures Planning System and Target-Setting Emissions Trading System Program, achieving the CO_2 emission reduction goal in the Phase 1 Plan (6% reduction from the base year). We are also making smooth progress toward the CO_2 emission reduction goal in the Phase 2 Plan (13% reduction from the base year).

Responding to Specified Chemical Substance Restrictions

For raw materials management, to improve measures in response to Europe's REACH*1 as well as regulatory changes regarding chemical substances in Japan, chemical substance ingredient information sheets were revised. From October 2015, information on measurement data for the ten RoHS2*2 substances (four substances of phthalic esters slated for regulation from July 2019, in addition to the existing six substances in RoHS) and content information for chemical substances under regulation, including trace residual chemicals, have also been collected. Also, the application of these measures to affiliates was clarified as part of the RIKEN TECHNOS GROUP Green Procurement Standards.
It is the mission of manufacturers to provide safe and reliable products to customers, and ensuring the safety of chemical substances used is considered to be one of the main concerns of RIKEN TECHNOS CORPORATION. In FY2006, a Chemical Substances Control Committee was newly established as a companywide organization. Also, a Chemical Substances Management Guidelines was established and, in addition to chemical substances prohibited by law from being manufactured and used, we decided to prohibit the use of chemical substances specified for monitoring under the Chemical Substances Control Law. We also clearly declared our intention to reduce the use of chemical substances such as lead and toluene that are not prohibited from usage but are considered safer to avoid from the perspective of industrial safety and health. Also, chemical substances newly under consideration for usage are subject to reviews, and a framework for providing products where safety comes first has been established companywide.

*1 REACH: European regulation related to the registration, evaluation, authorization and restriction of chemicals
*2 RoHS2: See the note on page 47.

Biodiversity

We are working to eliminate the usage of Class I and II Specified Chemical Substances and Monitoring Substances under the Chemical Substances Control Law, and reduce the usage of chemical substances designated as Class I under the PRTR Law. Additionally, we comply with the Air Pollution Control Act, Water Pollution Control Act, Industrial Safety and Health Act, and other laws, and take into consideration the effects on people and ecosystems in developing, manufacturing, and marketing our products. We participate in activities to maintain the green areas around our factories, as well as volunteer activities for forest environmental maintenance.

Environmental Accounting

RIKEN TECHNOS CORPORATION has been disclosing accounting data from environmental preservation activities since FY2006.

Criteria for Environmental Accounting in FY2020

(1) Accounting Coverage: RIKEN TECHNOS CORPORATION (non-consolidated)
(2) Period Covered: April 1, 2019, to March 31, 2020
(3) Referenced Guidelines: "Environmental Accounting Guideline (2005 Edition)" (Issued by the Japanese Ministry of the Environment in February 2005)

Summary of Environmental Accounting in FY2020

In FY2020, the amount invested in environmental preservation costs was approximately JPY 120 million, and expenses were approximately JPY 1.2 billion, making a total of approximately JPY 1.32 billion. Investment amounts are the costs for pollution prevention, global environmental preservation, and resources recycling. Expenses included the cost of analysis to comply with the RoHS2 Directive, and ISO maintenance activities. A very large proportion of the costs, amounting to approximately JPY 1 billion, was for R&D expenses for environmentally-friendly products.
In terms of the environmental preservation effects resulting from our activities, simple (landfill and incineration) waste volume per gross production was 0.16%, not achieving our goal of 0.1% or below. Total industrial waste amount per gross production was 3.54%, not achieving our goal of 3.5% or below. With regard to CO_2 emissions, although we conducted continuous energy-saving activities, the result was 0.432t-CO_2 against the goal of 0.426t-CO_2 or less, not achieving our goal of an 8% reduction from the FY2012 level. In addition, we also did not achieve our goal of an 8% reduction from the FY2012 level for electric power consumption rate (Electricity use (MWh)/Production (t)), which was at 0.721 MWh/t against the goal of 0.706 MWh/t or less. At the same time, heavy oil usage per gross production was 0.026 kl/t, achieving the goal of 0.0351 kl/t or less. On the other hand, our heavy oil consumption rate (Heavy oil use (kl)/Production (t)) was 0.026 kl/t against the goal of 0.0351 kl/t or less, achieving our goal of an 8% reduction from the FY2012 level. This is due to the results of our energy-saving activities (introduction of energy-saving equipment and measures for efficient production, etc.)
An economic effect of approximately JPY 11.5 million was achieved from cost reductions through sales of valuable materials from waste plastics, energy savings, and other factors.

Summary of Environmental Action

Environmental Preservation Costs

JPY 1,000

Category		Content of Activities on Examined	Total Amount Invested*1	Expenses*2
1. Business area costs			114,676	176,971
Breakdown	Pollution prevention costs	Construction for noise prevention measures, maintenance of scatter prevention equipment	1,559	87,738
Breakdown	Global environmental preservation costs	Installation and improvement of energy-saving equipment	113,117	0
Breakdown	Resources recycling costs	Disposal of industrial waste, recycling, etc.	0	89,233
2. Upstream/Downstream costs		Analysis of products containing chemical substances	6,030	13,060
3. Administration costs		Issuing of CSR Report, maintenance of ISO (including external audit), analysis of drainage and VOC, maintenance of green areas at each site	0	16,009
4. R&D costs		Research and development of environmentally friendly products	0	997,813
5. Social activity costs		Beautification of areas around our sites, donations	0	400
6. Environmental damage countermeasures costs		Soil investigation and improvement	0	644
Total			120,706	1,204,897

***1** Total amount invested: The invested amount intended to be used for environmental preservation during a set period. Its effect continues for a number of set periods and is then calculated as the cost for that timeframe.
***2** Expenses: The cost or loss that occurs from the consumption of commodities and services intended for environmental preservation.

Environmental Preservation Effects

Classification of environmental preservation effects	Environmental Performance Indicators		FY2019	FY2020
Environmental preservation effect related to resources input into business activities	Total energy input volume (GJ)		927,403	777,961
	Energy input by type	Electricity (MWh)	78,993	65,405
		Heavy oils (kl)	2,472	2,394
		City gas 13A (km^3)	1,137	963
		Gasoline (kl)	40	38
		Light oils (kl)	3	3
	Input of PRTR-controlled substances (t)		1,560	1,322
	Water resources input	Tap water (m^3)	129,000	126,548
		Groundwater (m^3)	176,000	149,761
		Water for industrial use (m^3)	35,000	30,616
Environmental preservation effect related to waste or environmental burdens originating from business activities	Greenhouse gas emissions (t-CO_2)		46,000	43,879
	Volume of PRTR-controlled substances discharged (t)		546.8	265
	Volume of PRTR-controlled substances transported (t)		16.8	93
	Total waste discharge volume (t)		3,700	3,600
	Final waste disposal volume (t)		192	163
	Amount of sewage (m^3)		322,000	294,485
Environmental preservation effect related to commodities and services produced by business activities	Volume of valuable materials recycled (t)		1,894	1,346
Other environmental preservation effects	Volume from transportation of products (t-km)		24,682,013	20,252,279
	Volume of CO_2 emissions associated with transportation (t)		4,284	3,515

Economic effects associated with environmental preservation

JPY 1,000

Economic Effect	Amount	
	FY2019	FY2020
Benefit from recycling plastic, paper waste, etc.	9,282	5,912
Expenses reduced by energy-saving activities	1,648	5,596
Total	10,930	11,508

Asset Retirement Obligations

Asset Retirement Obligations accounting began on April 1, 2010. Asset Retirement Obligations in accordance with environment-related laws are currently as follows.

As of March 31, 2020 (JPY 1,000)

Costs	Expense
Cost of restoring buildings	76,163
Cost of asbestos disposal from usage sites	32,675
Cost of renewing equipment using PCB	0
Cost of contaminated soil treatment	63,513
Total	172,350

RIKEN TECHNOS GROUP Environmental Data

RIKEN TECHNOS Environmental Data by Factory

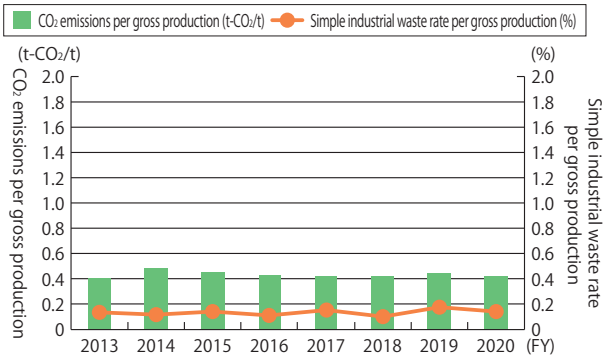
Saitama Factory
- Site area: 58,739m^2
- Description of business: Manufacturing of compounds, film, and food wrapping film made from various thermoplastic resin, including PVC
- Employees: 250

Mie Factory
- Site Area: 55,247m^2
- Description of business: Manufacturing of compounds, film, and food wrapping film made from various thermoplastic resin, including PVC
- Employees: 247

Gunma Factory
- Site area: 55,904m^2
- Description of business: Manufacturing of high functional film in a clean environment
- Employees: 38

Nagoya Factory
- Site Area: 16,700m^2
- Description of business: Manufacturing of food wrapping film
- Employees: 11

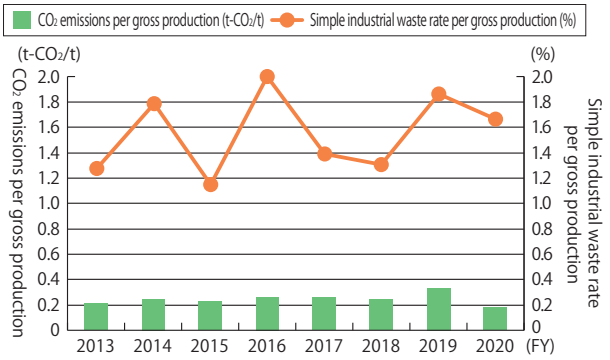
CO_2 emissions per gross production and simple industrial waste rate per gross production (total for the Saitama, Mie, Gunma, and Nagoya Factories)



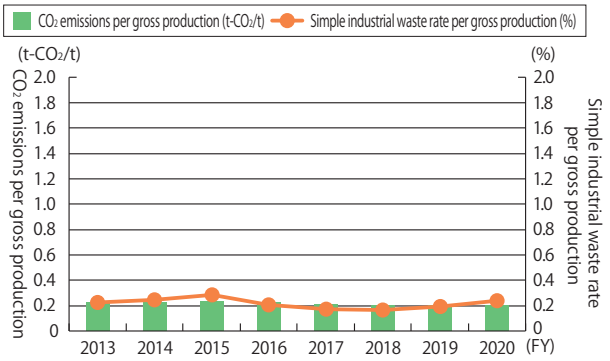
Environmental Impact Data for Affiliates of RIKEN TECHNOS GROUP

①Compound Production Companies

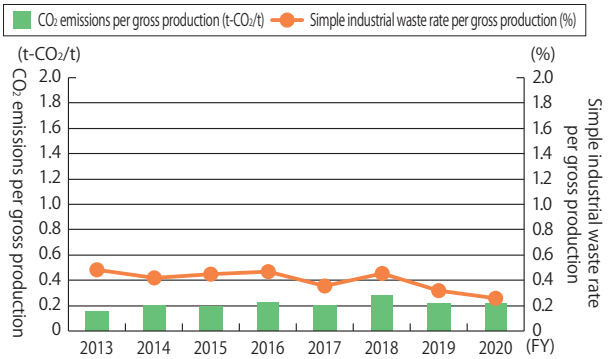
RIKEN CHEMICAL PRODUCTS CO., LTD. Employees: 42



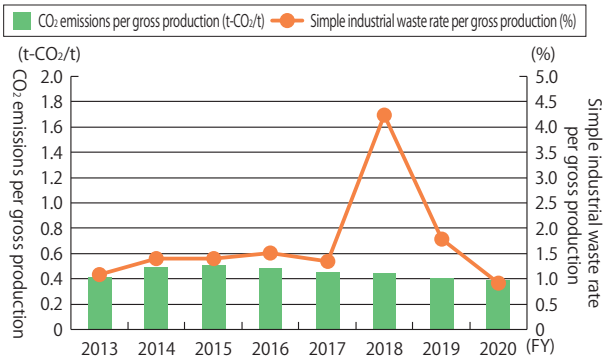
RIKEN (THAILAND) CO., LTD. Employees: 261



RIMTEC CORPORATION Employees: 87



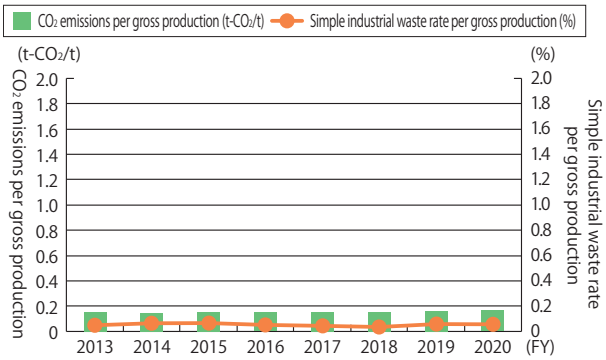
RIKEN ELASTOMERS CORPORATION Employees: 35



Summary of Environmental Action

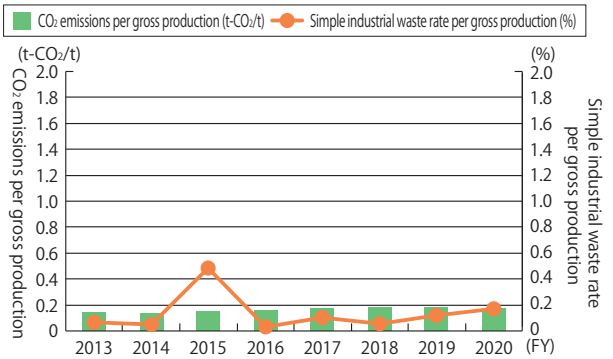
PT. RIKEN INDONESIA

Employees: 222



SHANGHAI RIKEN TECHNOS CORPORATION

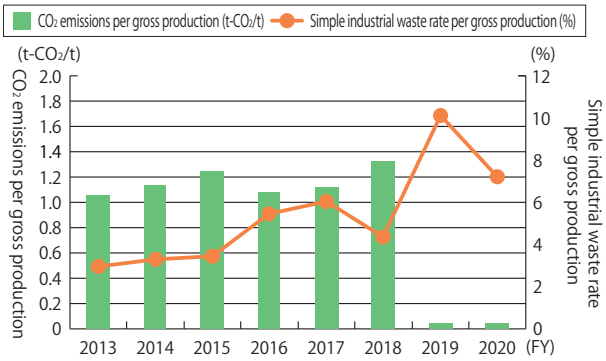
Employees: 117



②Molding Companies

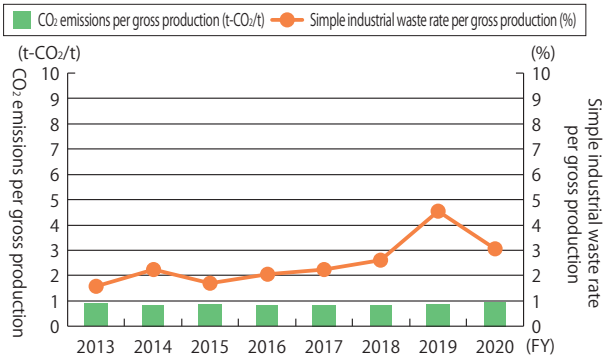
RIKEN CABLE TECHNOLOGY CO., LTD.

Employees: 64



KYOEI PLASTICS MFG CO., LTD.

Employees: 63



RIKEN TECHNOS (JIANGSU) CORPORATION

Employees: 51