KUREHA ECOLOGY
MANAGEMENT CO., LTD.

Environmental Report 2024

Top Message

Recent world affairs have changed at an unimaginable speed and factors such as the rise in raw material and fuel prices, and commodity price hikes have made a significant impact on our corporate activities and lives. There has been no end to negative events such as the many unprecedented deadly natural disasters and the latest conflicts in the Middle East, in addition to the situation in Ukraine and power struggles between major nations with no end in sight. Furthermore, the business environment surrounding our Group company is such that we need to address new issues such as reducing the amount of industrial waste being brought into facilities, the surge in fuel and material prices, growing competition with our competitors, and the difficulty in securing human resources.

Under these circumstances, we are committed to initiatives for reducing the environmental impact, reducing the volume of waste, detoxifying waste, regenerating and recycling resources, and achieving carbon neutrality towards achieving an ideal state for 2030 as well as achieving our vision of “we will contribute to building a resource recycling society through our environmental and recycling business that makes use of proprietary technology” as stated in the New Mid- to Long-term Management Plans while maintaining our fundamental principle of “safety takes precedence over everything else” .

As initiatives concerning SDGs and carbon neutrality are being promoted worldwide, we will further promote CSR management to maintain sustainable corporate value while contributing to building a sustainable recycling society through the business of our Group company, HIMEYURI Corporation (landfill site), in addition to our industrial waste disposal business, environmental engineering business, and environmental restoration & recovery related businesses, and we will continue to work hard to be a company that earns and continues to keep the trust of our customers, local residents, and all stakeholders.

I would like to thank everyone for their continued support and look forward to working with you all in the future.

Masahiro Namikawa
Member of the Board
President & Chief Executive Officer

Corporate Philosophy

1. We tirelessly endeavor to achieve a harmonious relationship between people, society and the global environment.
2. We contribute to the enrichment and growth of the society by providing safe products and services.
3. We grow and develop ourselves with the community in which we operate.
4. We comply with laws and regulations, practice high ethical standards and operate in transparent manners as a trusted corporate citizen.
5. We develop and nurture a corporate culture which values the individuality and diversity of our employees and optimizes creativity and teamwork within.
6. We bring passion to researching and developing technologies that are ahead of the times.

Editorial policy

This report introduces various initiatives including our Responsible Care (RC) activities in fiscal 2023.

■ **Guidelines used as reference**:
- Environmental Reporting Guidelines 2012
- Guide to Matters Noted in Environmental Reports (3rd Edition)

The documents above were published by Ministry of the Environment

■ **Report period:**
April 1, 2023 – March 31, 2024
Including some information from FY2024 and about plans

■ **Reporting departments:**
All Kureha Ecology Management departments

■ **Disclaimer**
This report includes plans and forecasts. Changes in various conditions could render these forecasts inaccurate. Please note that some of the figures in the tables and graphs presented here have been revised from previous fiscal years considering changes to calculation methods and other factors.

We will also introduce our efforts to SDGs*.

*What are the SDGs (Sustainable Development Goals)?
The SDGs (Sustainable Development Goals) are international goals adopted at the United Nations Headquarters in September 2015 that will last until 2030. They aim to realize a world in which "no one is left behind" by tackling 17 goals and 169 targets to deal with global issues such as the global economic crisis, natural disasters, the environment problems, refugees, and poverty.

Contents

Outline of Business

Core business

①Collection, transportation, and disposal of industrial waste

We have intermediate waste treatment facilities at Iwaki City, Fukushima Prefecture (Waste-Tech Iwaki) and at Kawasaki City, Kanagawa Prefecture (Waste-Tech Kanagawa). Together with the landfill site at HIMEYURI Corporation, our Group company, these facilities can batch process even difficult-to-treat waste.

Our primary consideration is the safe and proper treatment of diversified industrial waste, and we also publicize our research and development concerning waste treatment technology as well as hold conferences.

②Environmental restoration business

We are cleaning up and restoring the environment based on our expertise, the many achievements we have made in the past, and the proprietary technology that we have developed over the years. We have adopted an integrated system in which we start with investigating the level of contamination, then design and create measures to clean up the contamination, and finally monitor the situation after the cleanup is complete.

Environmental restoration technology is also being applied to the fast and proper treatment of disaster waste created by earthquakes and torrential rain damage, which contributes to the reconstruction of disaster areas.

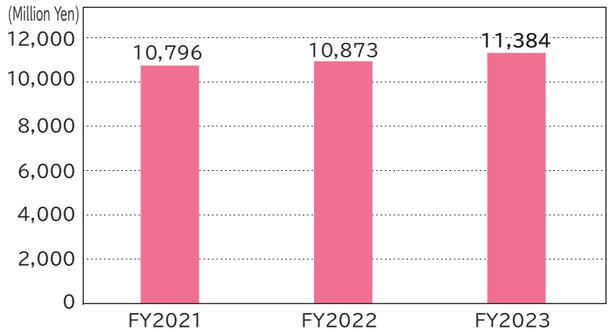
③Environmental engineering business

We manufacture and sell environmentally friendly equipment that promote better air and water quality. In addition to collecting organic solvents from within exhaust gas and using exhaust gas treatment equipment to remove harmful and odorous substances, we also have water treatment equipment that aims to achieve suitable water quality management at water purification plants and prevent corrosion at water supply facilities by improving water quality.

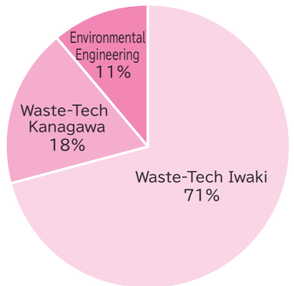
④Power generation business

Waste-Tech Kanagawa generates power in the form of thermal recovery from the heat generated when it incinerates waste.

Sales



Sales by Business Sector (FY 2023)



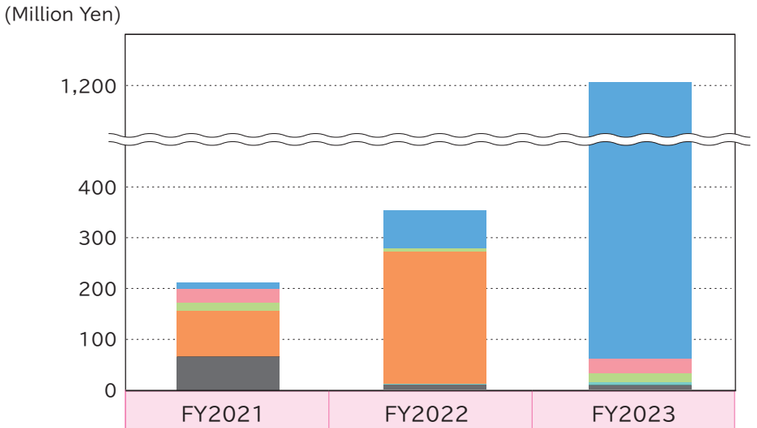
We will continue to work hard to reduce the environmental impact through our business for our customers, local communities and all stakeholders as well as to preserve the global environment based on our corporate philosophy.

Kazuya Omine
Manager, Management Planning Section
Management Planning Department

Investment in Environmental Measures

We invested in equipment that exceeds 1.205 billion yen as environmental measures in FY2023.

We invested over 1.143 billion yen to improve the performance of wastewater treatment in addition to adding a dehydrator at Waste-Tech Iwaki for ① “Anti-pollution measures (water quality)”. Furthermore, we invested around 47 million yen and took environmental measures for ② and ③ “Anti-pollution measures (air, noise, vibration and offensive odors)”.



	FY2021	FY2022	FY2023
①Antipollution measures (water quality)	12.98	75.16	1,143.97
②Antipollution measures (atmosphere)	26.29	0.32	29.48
③Antipollution measures (noise, vibration, bad odor)	16.17	7.86	17.85
④Energy saving and reduction of CO_2 emission	90.94	261.56	0.00
⑤Industrial waste and recycling related measures	0.00	0.86	5.92
⑥Countermeasures of soil and groundwater contamination	0.00	0.00	0.00
⑦Others	64.34	9.35	7.95
Total	210.72	355.11	1,205.17

Management System Operational Status

Management system basic policy

●Approach, targets, and purpose

We will comply with laws, regulations, and voluntary standards, and we will strive to deepen trust from stakeholders in the community and in business as well as to improve our corporate value through various activities concerning quality, environment, and occupational health and safety based on our management system.

●Activities policy

- ●We will improve the quality of the products and services we provide to aim for greater customer satisfaction.
- ●We are committed to protecting the environment using our experience in the environmental business.
- ●We will create a safe, secure, and comfortable workplace based on our Health and Safety Management Policy.
  We are especially committed to preventing falls from a height, chemical burns, slips and falls on the same level, and heavy machinery accidents.

Revised on May 12, 2022

Usage of the Environmental Management System (ISO 14001)

We held the Environmental Management Committee once a month to grasp the progress of our environmental activities.

Environmental objectives and results of ISO 14001

Environmental Objectives	Goal	Result	Description
<General Affairs Dept> Strive to beautify and protect the environment inside and outside the company (mainly around the company).	Community beautification activities: more than 8 times / year	Achieved	Conducted 8 times and achieved the goal
<Sales Division> Zero: external leaks of waste	Zero	Achieved	Achieved the goal (no external leak of waste).
<Waste-Tech Iwaki> Zero of environmental complaints	Zero	Achieved	Achieved the goal (no environmental complaint)
<Waste-Tech Kanagawa> Zero of environmental complaints	Zero	Achieved	Achieved the goal (no environmental complaint)
<Environment Engineering Dept> Zero: environmental accidents in external construction	Zero	Achieved	Achieved the goal (no environmental accident).
<Environment Sales Dept> Contributes to the reduction of CO_2 emissions and effective use	55 t / year	Achieved	The sale of 1 GASTAK* unit and 1 unit of carbon gas injection equipment contributed to over 55 metric tons per year of reduced CO_2 emissions volume or effective use volume.

*VOC Exhaust Gas Treatment Equipment

Compliance with Environmental Regulations Status

We have stated “Compliance with laws, regulations and voluntary standards” in the basic management system policy. To comply with laws and regulations, we use the international standard IS014001, which was certified in 1998, to register laws and regulations, and to assess compliance. As a result of the assessment, we have confirmed that the compliance is maintained in FY2023.

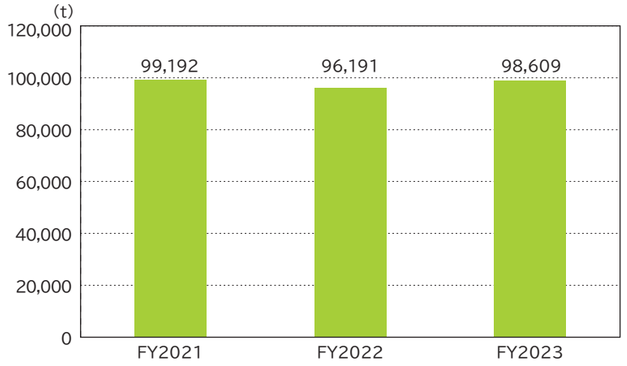
List of major environmental laws and regulations

No.	Names of Laws, Regulations etc.	Contents (in relation with)
1	Air Pollution Control Act Water Pollution Control Act Act on Special Measures concerning Countermeasures against Dioxin Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof Environmental Regulations of Fukushima Prefecture, Kanagawa Prefecture, Iwaki City and Kawasaki City Agreement on Pollution Prevention (Iwaki City)	Prevention measures of air and water pollutions Measurement, investigation, notification related to air and water pollutions Related to odor control measures Measurement, investigation, and notification related to malodorous substances and industrial waste Prevention measures for vibration noise, etc.
2	Waste Disposal and Cleaning Laws	Maintenance & management standards for waste treatment facilities Standards for storage of industrial waste and specially controlled industrial waste Permission standards for collection and transportation business of industrial waste, specially controlled industrial waste Status report on industrial waste management including issuance of management slip Regular inspection of industrial waste treatment facilities by the government
3	Ministerial Ordinance for Establishing Criteria of Industrial Waste Containing Metals	Criteria related to landfill disposal of cinders and dewatered sludge
4	Act on Promotion of Global Warming Countermeasures	Greenhouse gas emissions related
5	Fire Service Act	On-site inspection by the government of dangerous goods storage etc.
6	Act on Rationalizing Energy Use	Obligation of regularly report on energy usage by specific companies
7	Guidelines for Mercury Waste	Environmentally appropriate treatment of mercury waste
8	Guidelines for Collecting and Transporting of Low-concentration PCB Waste, Guidelines for Processing of Low-concentration PCBs	Standards for collection, transportation and treatment of low-concentration PCB waste
9	Act on Rational Use and Appropriate Management of Fluorocarbons	Report on the amount of CFC destruction

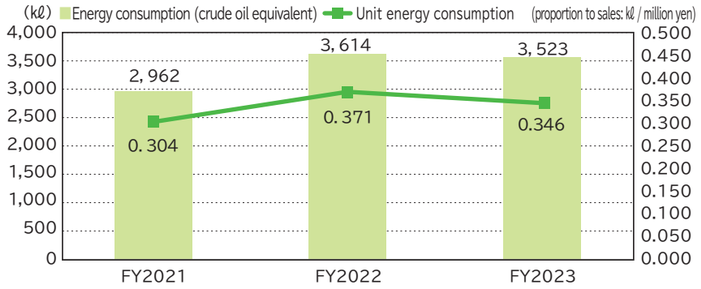
Input & Output Status

Input

Received amount of waste
98,609t

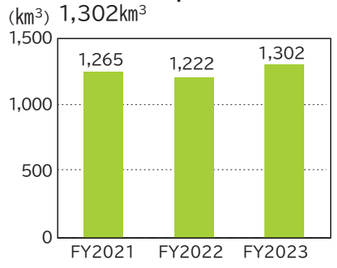


Energy consumption (Crude oil equivalent)
3,523kℓ

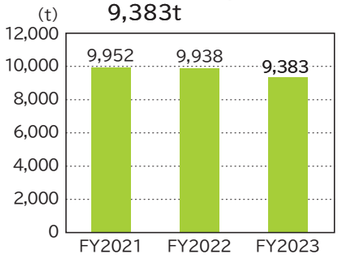


The figures listed are based on the former Energy Conservation Act for calculating basic units to ensure continuity of evaluation before and after the Energy Conservation Act was revised. Non-fossil energy is also included in the report for figures based on the revised Energy Conservation Act, which is equivalent to 25,990kℓ of crude oil.

Water resource consumption
1,302km³



Raw material consumption
9,383t



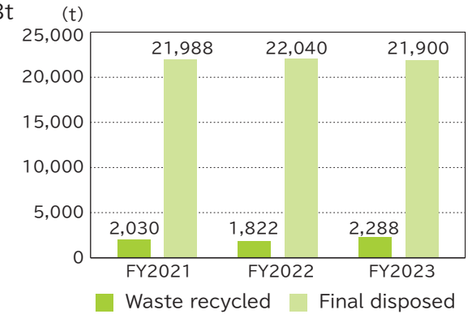
Waste treatment

Waste-Tech Iwaki

Waste-Tech Kanagawa

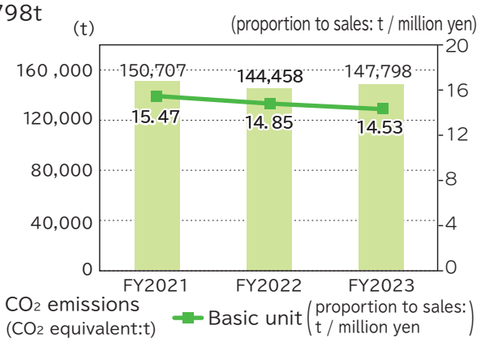
Output

Waste produced
24,188t



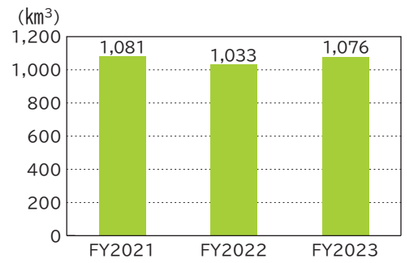
The amount of waste emissions after intermediate treatment was reduced by up to 24.5% for the amount of waste received. Furthermore, an equivalent 9.5% of the amount of waste emissions was recycled which contributed to resource recycling.

Greenhouse gas emissions (CO_2 equivalent)
147, 798t



The figures listed are based on the former Energy Conservation Act and the SHK system for calculating basic units to ensure continuity of evaluation before and after the Energy Conservation Act was revised and the SHK system was changed. The handling of emissions involving waste changed because the SHK system was changed, which resulted in greenhouse gas emissions of 51,888 metric tons.

Wastewater produced
1,076km³



Since Waste-Tech Kanagawa uses a closed system (a system that recycles wastewater without letting it go outside), the amount of wastewater is only for Waste-Tech Iwaki.

Waste power generation at Waste-Tech Kanagawa provides surplus power to external parties, and the amount of power supplied is equivalent to the amount of power purchased by Waste-Tech Iwaki so our entire business operates at close to zero purchased power. We will continue to contribute to reducing the environmental impact and achieving a sustainable society by treating waste at both Iwaki and Kanagawa and taking advantage of the characteristics of each of these facilities.

Tsukasa Horiguchi
Member of the Board, Executive Vice President General Manager, Waste-Tech Division

Waste-Tech Iwaki

In the Unit 7 and Unit 8 incinerators of Waste-Tech Iwaki, we incinerate various kinds of waste such as sludge containing chlorine and silicon, waste plastics, waste acid, waste alkali and medical waste.

Unit 7 incinerator

Unit 8 incinerator

The Treatment Section is responsible for managing the operation and maintenance of the entire treatment facilities, which is mainly the incinerators. We strive to reduce the environmental impact through safe and sanitary treatment. We also make every effort to ensure the full safety of our employees and the stable operation of our facilities.

Yoshiaki Abe
Manager, Treatment Section, Iwaki Treatment Department

Unit 7 Incinerators
Unit 8 Incinerators

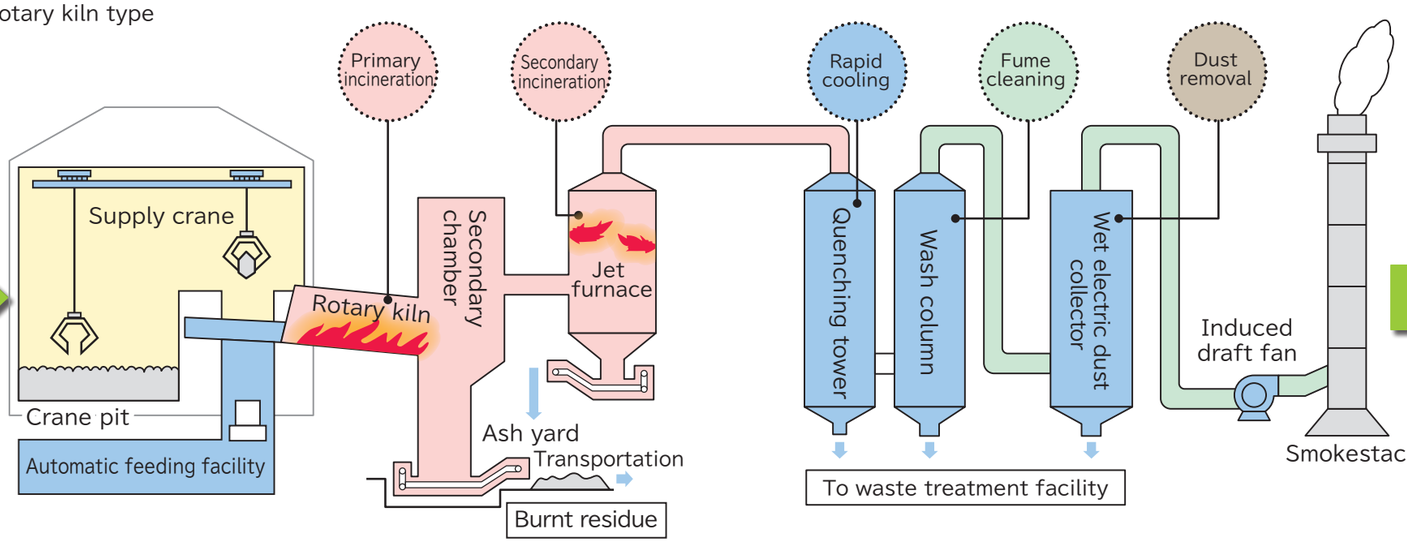
Rotary kiln type

Input

Waste received: 58,246t
Waste to be incinerated:
→ Incinerators
Other waste:
→ Other facilities

Energy consumed* (crude oil equivalent): 3,103kℓ
Water consumed: 1,250km³
(Used for treatment of exhaust gases)
Materials purchased: 7,381t

*After the amendment of the Energy Saving Law 17,593kℓ



Output

Waste produced: 13,918t
Waste recycled: 2,157t
Final disposed: 11,761t

Greenhouse gas emissions* (CO_2 equivalent): 88,280t
Wastewater: 1,076km³

*After the SHK system change 51,478t

Unit 7 incinerator

Incineration of sludge:182m³ / day
Incineration of waste oil:110m³ / day
Incineration of waste plastics:104t / day
Decomposition of cyanide compound:202m³ / day
Incineration of industrial waste:238t / day

Unit 8 incinerator

Incineration of sludge:182m³ / day
Incineration of waste oil:118m³ / day
Incineration of waste plastics:104t / day
Decomposition of cyanide compound:266m³ / day
Incineration of industrial waste:238t / day

The expansion from one dehydrator to two, instead of the previous one, has contributed to stable operation.
(Photo: Expanded dehydrator building)

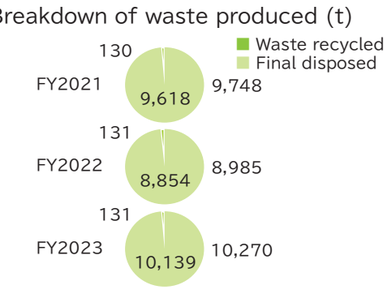
Waste-Tech Kanagawa

At Waste-Tech Kanagawa, we incinerate industrial waste and use exhaust heat effectively to generate electricity.

We are trying to contribute to minimization of fossil fuel use by making full use of operation know-how so that we can supply more electricity from a wide variety of waste materials with different calorific values and properties.

Every member of the Equipment Section is multi-skilled and works hard on their daily tasks while prioritizing both high quality and safety so that we can rapidly respond to every possible equipment-related problem, from buildings to incinerators.

Yutaka Kigami
Deputy Manager, Facilities Section, Kanagawa Treatment Department



Input

Waste received: 40,364 t
Waste to be incinerated: → Incinerators
Other waste: → Other facilities

Energy consumed* (crude oil equivalent): 420kℓ
Water consumed: 52km³
Materials purchased: 2,002 t

*After the amendment of the Energy Saving Law 8,397kℓ

Total of Unit 1 & 2 incinerators

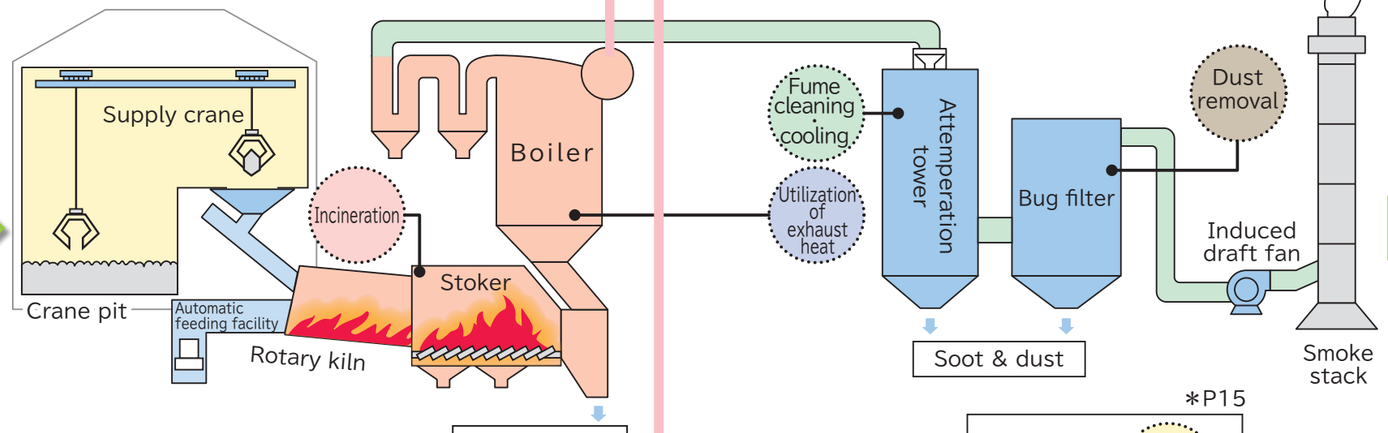
Incineration of mixture:140t / day
Incineration of sludge:112m³ / day
Incineration of waste oil:150m³ / day
Incineration of waste plastics:80t / day
Incineration of other industrial wastes:230t / day

Unit 3 incinerator

Incineration of mixture:70t / day
Incineration of sludge:48m³ / day
Incineration of waste oil:75m³ / day
Incineration of waste plastics:40t / day
Incineration of other industrial wastes:115t / day

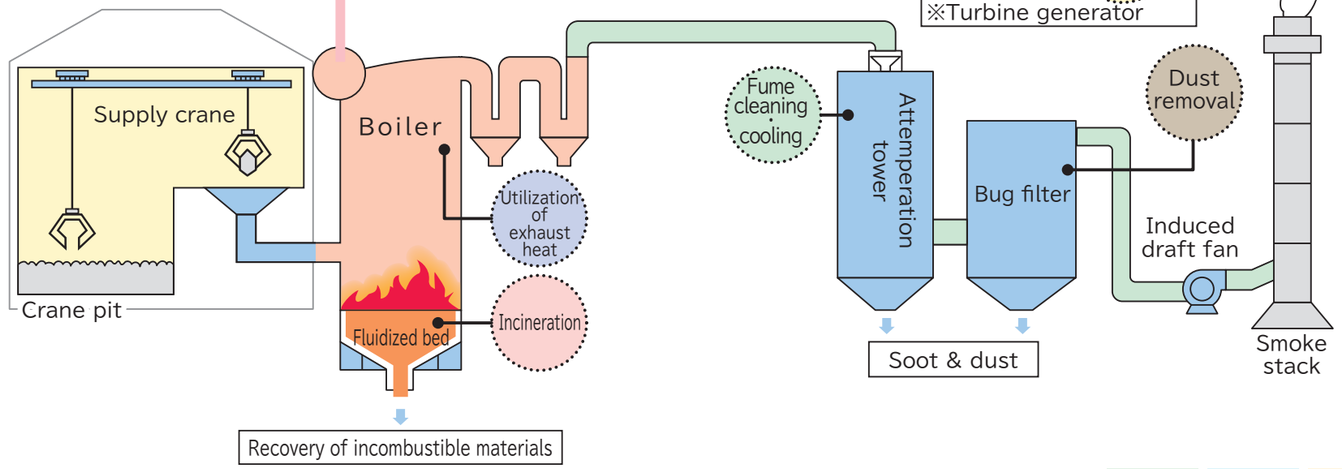
Unit 1 Incinerators
Unit 2 Incinerators

Rotary kiln stoker type



Unit 3 Incinerator

Fluidized-bed type



Output

Waste produced: 10,270 t
Waste recycled: 131 t
Final disposed: 10,139 t

Greenhouse gas emissions*1 (CO_2equivalent): 59,518 t
Wastewater*2: 0 km³

*1 After SHK system change : 410 t

*2 In Waste-Tech Kanagawa, we use a closed system (a system that reuses wastewater without discharging it outside).

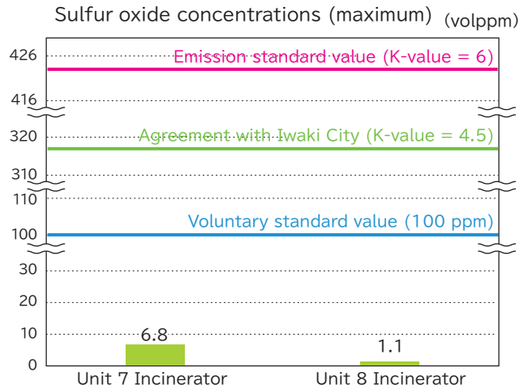
Kawasaki Logistics Center

This is a waste transshipment and storage facility adjacent to Waste-Tech Kanagawa. Waste carried in by small vehicles will be transported to Waste-Tech Iwaki by our large vehicles for disposal. We operate the facility considering transportation efficiency.

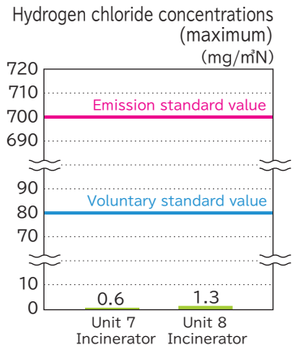
Measurement & Analytical Values for Various Discharges

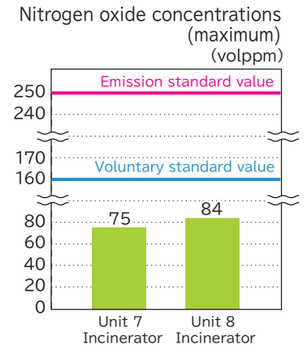
The concentrations of sulfur oxide, hydrogen chloride, nitrogen oxide, and soot & dust of the incinerators' exhaust gas in FY2023 are below the voluntary standard values owing to appropriate maintenance of waste disposal facilities, and compliant with the emission standards of laws & regulations.
* The emission standard values are the emission standard values in the Air Pollution Control ACT.

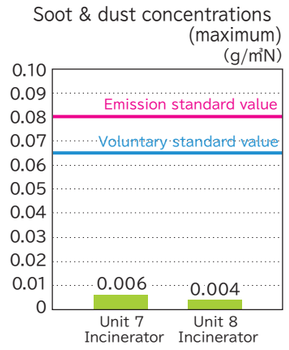
Waste-Tech Iwaki



* For sulfur oxide concentration, the K-value of the emission standard value (air pollution control act) is 6. In case of Iwaki City, the K-value in the pollution prevention agreement is 4.5 for each incinerator. Waste-Tech Iwaki converted the K-value to ppm and our voluntary standard value is set to be 100 ppm. When the K-value is converted to ppm, the converted value varies depending on the amount of exhaust gas. In this table, the K-value is expressed as 4.5=317ppm to facilitate comparison between the emission standard value, agreed values with Iwaki City, and voluntary standard value.
* For the maximum values in this fiscal year, the K-value of Unit 7 incinerator was 0.05 and that of Unit 8 was below the lower limit for measurement (0.01).



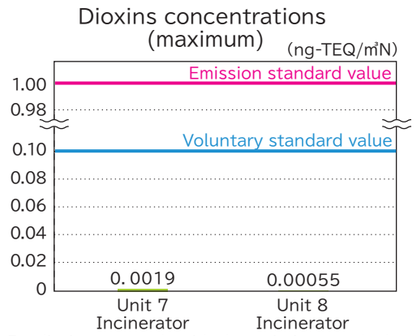




Release and transfer of chemical substances

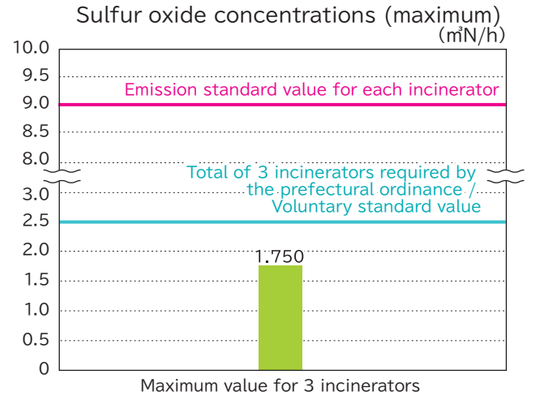
There are 31 substances applicable to Pollutant Release and Transfer Register Law (PRTR Law), and we properly submitted notifications. In this report we picked up dioxin, among priority substances and benzene, trichloroethylene and tetrachloroethylene among designated substances of the Supplementary Provisions to the Air Pollution Control Act.

Transfer of dioxins: 280mg-TEQ/year	Release of benzene: 5.4kg/year
Release of trichloroethylene: 5.4kg/year	Release of tetrachloroethylene: 5.4kg/year

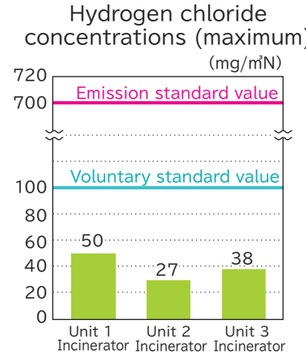


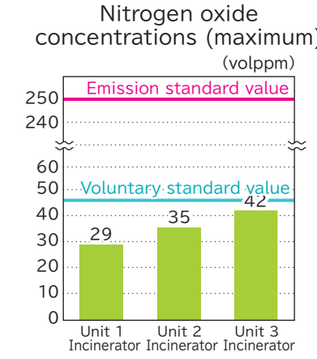
For dioxin, we comply with the emission standards of laws and regulations because the measurements were below our voluntary standard value.

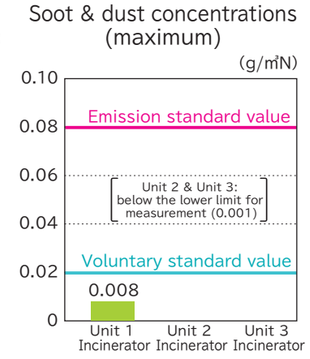
Waste-Tech Kanagawa



* The sulfur oxide emission is regulated by total amount, so we must comply with the emission standard based on the K-value. The standard value required by the Air Pollution Control Law is 9.07m³N/h for each incinerator, but Waste-Tech Kanagawa uses a stricter standard value of 2.52m³N/h for the total of three incinerators as a voluntary standard according to the Kanagawa Prefecture ordinance. In FY2023, the daily maximum value for all three incinerators was as shown on the left.



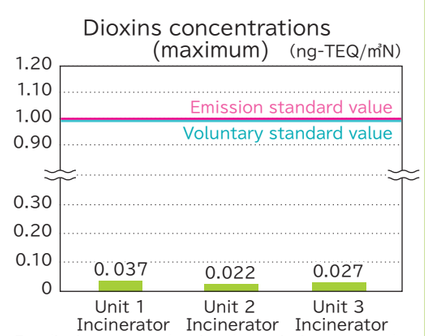




Release and transfer of chemical substances

There is 1 substance applicable to Pollutant Release and Transfer Register Law (PRTR Law), and we properly submitted a notification.

Transfer of dioxins: 6,210mg-TEQ / year

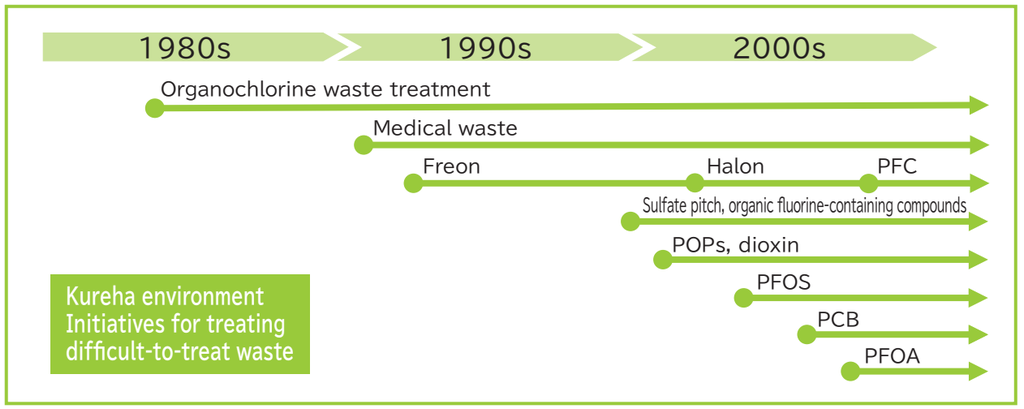


For dioxin, we comply with the emission standards of laws and regulations because the measurements were below our voluntary standard value.

Contributing to Society Through Waste Treatment

Treating difficult-to-treat waste

We has put a great deal of effort into detoxifying waste that is difficult to treat and recycle using the technological capabilities we have developed over the years. We have been contributing to the detoxification of chemical substances that are considered problematic in terms of their lack of biodegradability both in Japan and overseas, such substances as organochlorine waste, freon and dioxins, and more recently low concentration PCBs as well as PFOS and PFOA.



Environmental restoration business

Taking advantage of our expertise that enables us to respond to a diverse range of waste and using our technological capabilities to treat difficult-to-treat waste, we have been working hard in the environmental restoration business on projects such as treating disaster waste caused by earthquakes and torrential rain as well as treating waste that was improperly stored. We will continue to contribute to preserving local communities and the global environment through our waste treatment business.

◆Treating disaster waste

Typhoon Hagibis, which occurred in October 2019, brought record-breaking levels of rainfall to Eastern Japan. This created about 71 thousand metric tons of disaster waste due to flood damage in Iwaki City. We contributed to the treatment of disaster waste with management tasks such as managing temporary waste storage sites and controlling the quantity of waste. Waste treatment was completed in March 2021.

Photo showing the temporary waste storage site at its peak (December 2019)

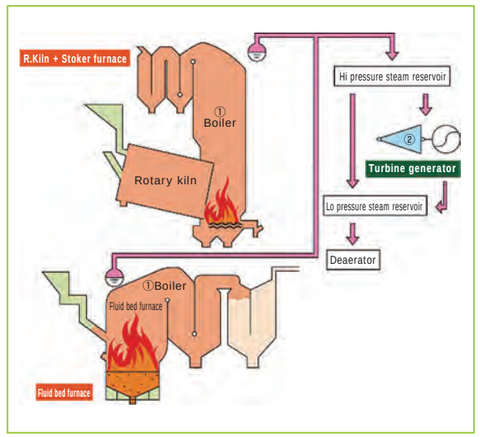
The site returned to its original state (March 2021)

Thermal Recovery

Waste Power Generation (Thermal Recovery) at Waste-Tech Kanagawa

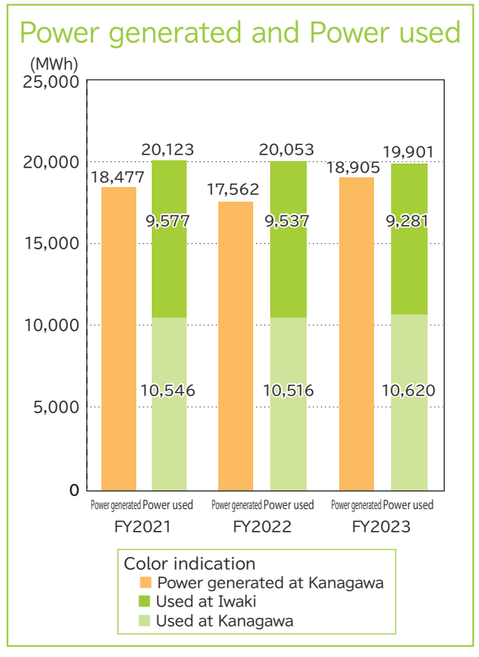
Waste-Tech Kanagawa has a maximum power generation capacity of 4,800kW by thermal recovery that recovers the exhaust heat of three incinerators.

The power generated is used by Waste-Tech Kanagawa and surplus power is sold. Thus, we return excess energy to society in the form of electricity, contributing to the reduction of environmental load.



①Boiler

This cools the combustion gas and supplies the generated steam to the on-site equipment and power generation equipment.



②Turbine Generator

This generates power with the steam produced in the boiler. The generated power is used within the plant, and the surplus power is sold.

VOC Exhaust Gas Treatment Equipment “GASTAK”

The Environmental Sales Department strives to popularize the use of our equipment, develop new applications, and sends out information so that we can contribute to building a sustainable society and a stable life for everyone by improving the water supply quality and preventing air pollution using our proprietary VOC exhaust gas treatment equipment and water treatment equipment.

Keisuke Ozawa
Environmental Plant Sales Section, Environmental Sales Department

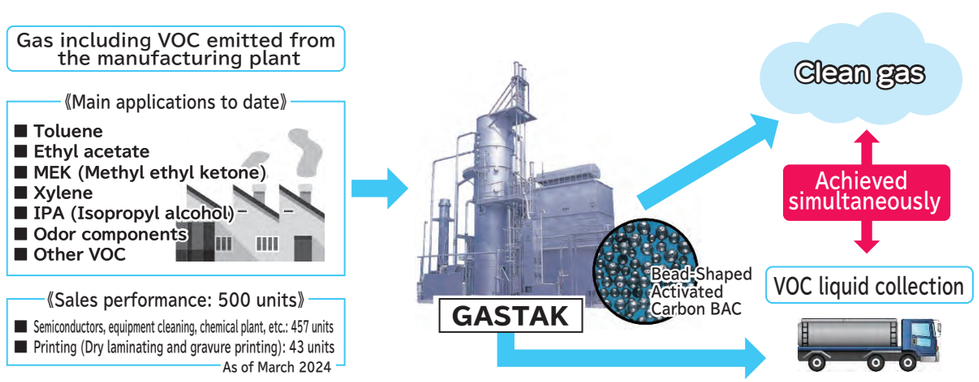
Collecting organic solvents and removing harmful substances that cause offensive odors

Our "GASTAK" is a revolutionary exhaust gas treatment equipment built for the purpose of collecting organic solvents contained in the exhaust gas and removing harmful substances that cause offensive odors from the exhaust gas.

GASTAK®

Overview of GASTAK

GASTAK uses Bead-Shaped Activated Carbons(BAC) manufactured by Kureha Corporation as an absorption material to remove organic solvents (volatile organic compounds) contained in emissions from manufacturing plants and simultaneously collect these solvents in their liquid state. The collected VOC are of a high quality so can be reused in the plant's manufacturing process and recycled for other purposes such as cleaning equipment and for use as a combustion improver, which reduces the amount of consumed VOC.

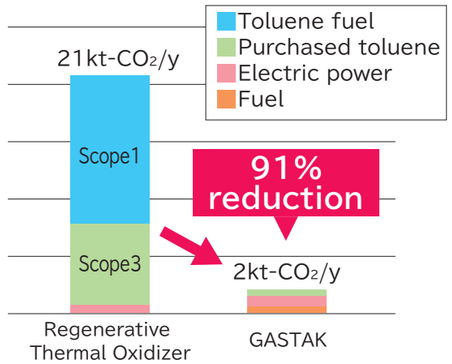


Results of reduced CO_2 emissions expected from replacing combustion equipment with GASTAK

The GHG Protocol*, which is the international standard for calculating greenhouse gases, defines CO_2 emissions in the supply chain as scope 1 (direct emissions of greenhouse gas from our company's business), scope 2 (indirect emissions associated with the use of electricity, heat, and steam provided by other companies) and scope 3 (emissions from other companies relating to our company's activities).
When there are many volatile organic compounds (VOC) contained in emissions from manufacturing plants, combustion equipment is used to decompose these VOCs by thermal oxidation to produce CO_2. Replacing this combustion equipment with GASTAK provides a significant reduction in the amount of CO_2 produced by burning VOC (scope 1) and the amount of CO_2 produced from purchasing new VOC (scope 3) because the VOC is reused or recycled as a resource.

The diagram below shows a comparison of the amount of CO_2 emissions from typical combustion equipment (Regenerative Thermal Oxidizer) against those from GASTAK.

* GHG Protocol: An international standard used when calculating and reporting the amount of greenhouse gas emissions.
It was created to promote its use as an internationally recognized standard for calculating and reporting the amount of greenhouse gas emissions. The protocol was announced in October 2011 and has become the current global standard for calculating and reporting the amount of greenhouse gas emissions.



Comparison of CO_2 emissions

Preconditions

Exhaust gas airflow	1,300 Nm³/min
Entry toluene concentration	1,500 ppm
Removal rate	95%
Yearly operating hours	8,000 hours

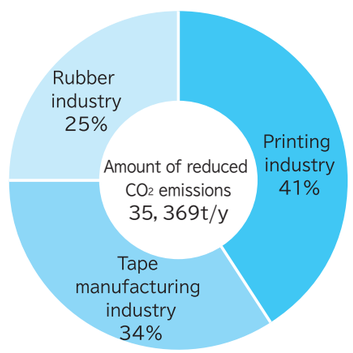
CO_2 emissions

Regenerative Thermal Oxidizer	21 kt-CO_2/year
GASTAK	2 kt-CO_2/year
Reduction results	19 kt-CO_2/year

Contributing to the control of CO_2 emissions

If VOC contained in exhaust gas is released without treatment into the atmosphere, it decomposes in the air and then finally changes into CO_2.
However, if VOC is collected as a liquid using VOC collection equipment, VOC contained in the exhaust gas is prevented from changing into CO_2 and can be recycled, thus contributing towards reducing the amount of CO_2 produced from the exhaust gas treatment process.

The graph shows the estimated amount of reduced CO_2 emissions per annum based on cases we has sold equipment for the purpose of VOC collection in the past.
We will continue to reduce the environmental impact in this field as well.



Amount of reduced CO_2 emissions per annum (estimated) based on equipment sold for the purpose of VOC collection (total of 17 units)

Water Treatment Equipment Clean Up & Water Purification

The Environmental Technology Department provides basic planning, design, construction, trial operation, and after-sales service with a responsible integrated system for environment-related equipment using our proprietary technology, which contributes to reducing the environmental impact.

Keita Nishiyama
Deputy Manager, Engineering Section, Environmental Technical Department

Removing substances that cause moldy smells and offensive smells and taste from raw water

When raw water contains substances that cause moldy smells and offensive smells and tastes that cannot be removed by standard water purification treatment, it is effective to use activated charcoal to remove these substances. “Dry Powder Activated Carbon Injection Equipment” provided with Kureha's proprietary rapid slurry forming equipment creates slurry from activated carbon in a smooth manner to enable the effective absorption and removal of substances.

Furthermore, no dust is created and no blockages occur in pipes so it is easy to operate and manage.

Dry Powder Activated Carbon Injection Equipment

Appropriate water quality management of raw water

When a water purification plant must control the raw water it takes from the river at a high pH value, we provides its proprietary “Carbon Dioxide Gas Injection Equipment” with excellent safety and handling to support the water purification plant in achieving appropriate water quality management.

Carbon Dioxide Gas Injection Equipment

Preventing corrosion at water supply facilities by improving water quality

“Honestlimer” , equipment that injects a solution of calcium hydroxide for water suppliers, has been installed in water purification plants in every region throughout Japan. (Total of 108 machines)

This equipment has demonstrated its ability to prevent corrosion and prolong the life of water supply facilities (clean water distribution equipment), and contributes to the supply of safe and delicious water.

“Honestlimer” , equipment that injects a solution of calcium hydroxide

Controlling algae with consideration for the ecosystem

When rivers and lakes become enriched with minerals and nutrients (eutrophication), cyanobacteria form in lakes and reservoirs, resulting in blue-green algae, which are problematic.

“Shallow Clean” focuses on “sunlight” , which is an essential element that causes blue-green algae to grow, and partially blocks only the minimum required amount of surface water. This controls abnormal algae growth without disrupting the ecosystem in the water.

Shallow Clean

Water treatment technology and social contribution

Water circulates in the natural environment while maintaining a relationship with all living organisms.

This important water resource is under serious threat from pollution in rivers and lakes. We will continue to contribute to providing and maintaining our moist water environment in a wide range of fields with its proprietary technology to prevent water pipes from corroding and forming rust-colored water so that delicious water is delivered reliably, to remove substances that cause moldy smells and offensive smells and taste from raw water so that delicious water is delivered reliably, to purify polluted wastewater so that rivers can maintain their beauty, and to eliminate blue-green algae that represent pollution in enclosed water areas so that lakes can return to their former beauty.

Building a Culture of Safety

Based on our fundamental principle of “safety takes precedence over everything else” , we aim to create a workplace to be proud of in which “everyone can come to work in a good mood, experience no pain, and can go home with a smile on their face” as a matter of course, and we will continue to work hard on health and safety activities.

Hikaru Sato
General Manager, Environment and Safety Department

Safety takes precedence over everything else

We work actively to achieve our Health and Safety Management Policy of “Safety takes precedence over everything else” .

“Safety takes precedence over everything else” is defined in our Health and Safety Management Policy. We perform business activities and operation management based on ISO45001 Occupational health and safety management systems to achieve this policy and are making every effort to build a culture of safety and raise our awareness of safety.

We have been focusing on close-call activities and risk assessment from an occupational health and safety perspective with all members participating, which has led to the routine and active identification of hazards in both directly and indirectly related departments. We believe that this has increased safety awareness among all employees. As a result, we were able to achieve the FY2023 “Zero incidents of on-the-job personal injury requiring absence from work” . We will continue to make every effort to ensure that our workplace remains safe.

We will continue to promote health and safety activities while keeping in mind that “safety takes precedence over everything else” to ensure that our employees and anyone associated with our company experiences no pain in terms of health and safety and can “come to work and go home with a smile on their face” as a matter of course.

FY2023 initiatives

①Strengthen our safety management system and enhance health and safety education to build a culture of safety

②Conduct patrols by corporate hierarchy with participants such as the company president, directors, general managers, and section managers

③Identify hazardous locations during the patrol and implement and report on measures to eliminate these hazards

④Promote the prevention of disasters by risk reduction initiatives from risk assessment

⑤Promote close-call activities with all members participating with the goal of improving risk sensitivity

⑥“Morning in-house broadcasts” to raise safety awareness (rotation system)

Various Initiatives

General disaster prevention drills

Disaster prevention drills were held at Waste-Tech Iwaki on November 16 and Waste-Tech Kanagawa on October 14. The drills assumed the outbreak of a fire and included using fire hoses and rescuing injured people.

Photo showing the fire extinguishing drill (Waste-Tech Iwaki)

Photo showing the fire extinguishing drill (Waste-Tech Kanagawa)

Patrol and close-call activities

Management holds patrols every month on the premises to control the occurrence of disasters in these areas at both Iwaki and Kanagawa. These patrols discover any hazardous locations and situations from various perspectives, and then take safety measures against such hazards. So that we can be more active in exposing close calls and improve the risk sensitivity of our employees, the Close-call Activities Promotion Committee will call for more effort in these areas and will implement risk assessment.

Number of accidents involving our employees
(Includes temporary staff and part-time workers)

Description \ Year(FY)	2021	2022	2023
Fatal accident	0	0	0
Lost time accident	1	1	0
Non-lost time accident	4	3	0
Minor injury	1	4	2
Serious near-miss	2	1	1
Total	8	9	3

Lost time accident
Accidents resulting in lost work time of 4 days or more

Non-lost time accident
Accidents requiring 1 to 3 days off work ; no day off but requiring continuous hospital visits

Minor injury
Accidents not requiring time off from work (minor injuries requiring examination and treatment at a hospital (no continuous visit), injuries requiring first-aid treatment)

Serious near-miss
Cases in which the company determined that an extremely dangerous event had occurred, although it led to no personal injury.

Near Misses(Nearly escaped accidents)

Accident type \ Year(FY)	2021	2022	2023
1. Fall / tumble	87	107	154
2. Falling down	361	395	454
3. Clash	150	230	280
4. Flying / falling	101	119	192
5. Disintegrate/collapse	14	39	39
6. Smashed	42	70	99
7. Sandwiched / caught in	38	53	98
8. Cut/scratched	49	43	69
9. Stepping through	7	9	8
10. Drowning	0	0	1
11. Contact with hot/cold objects	69	70	87
12. Contact with harmful agents	84	118	201
13. Electric shock	6	3	17
14. Explosion	0	3	3
15. Rupture	0	0	1
16. Fire	5	8	25
17. Traffic accident (on road)	631	731	880
18. Traffic accident (others)	9	4	11
19. Recoil of movement / unreasonable movement	42	51	52
20. Others	75	80	104
21. Unclassifiable	9	24	55
Total	1,779	2,157	2,830

CSR Regional Dialogue Meeting

On November 28, Kureha Iwaki Factory held the 21st CSR Regional Dialogue Meeting. Group companies including Kureha Corporation and our company reported our CSR activities to people from the local community.

Introducing our initiatives

Contributing to recovery from the disaster

Tropical Storm Yun-yeung, which occurred in September 2023, caused extensive damage to Iwaki City and created about 11 thousand metric tons of disaster waste. We was commissioned by the city with the responsibility of managing the disaster waste as a member of the Fukushima Industrial Resource Recycling Association (General Incorporated Association) to contribute towards the recovery (disaster waste treatment was completed in May 2024).

Photo showing the temporary waste storage site

An employee giving directions for transporting waste

Employee education on compliance and health & safety

We provides training and lectures taught by outside instructors throughout the year for our employees. We strive to provide opportunities for our employees to acquire knowledge and to improve their awareness concerning compliance.

- ●Harassment training session (Aug.17 and 29)
- ●Industrial physician lecture (Oct.26)
- ●Traffic safety lecture (Dec.15)
- ●Lecture about industrial accidents(Jan.18)
- ●Study session about the Subcontract Act (Mar.12)

Various Initiatives

Kawasaki coastal area work style program

We participated in the “Kawasaki coastal area work style program” which aims to promote interaction between companies and high schools in Kawasaki City. On December 14, as part of the program, students from Kawasaki City High School for Science and Technology attended a tour at Waste-Tech Kanagawa. The tour allowed them to further their understanding of how incinerators and waste heat power generation work.

A photo of the tour

Purchasing green power

From April, Waste-Tech Kanagawa switched to purchasing 100% of its electricity from renewable energies. This change reduces 300 metric tons of CO_2 per year compared with when we used electricity derived from fossil fuels.

Donation activities

We started an activity to collect plastic bottle tops from August. 2 kg of caps can buy polio vaccine for one person, which supports children in developing countries. We handed over 78kg of collected bottle caps (worth 39 polio vaccines) to the Interact Club at Fukushima Iwaki Agricultural High School in spring 2024. We plan to donate through this high school in the future.

Handing over bottle caps to Iwaki Agricultural High School

HIMEYURI Corporation Initiatives

HIMEYURI Corporation, our Group company, was founded in 1968, and is a company that operates and manages a controlled landfill site in Iwaki City. In December 2009, it received Eco-Action 21 certification based on the environmental management system guidelines created by the Ministry of the Environment. As a registered operator, HIMEYURI has initiatives to constantly improve the environment.

Heitarou Tertiary Disposal Site

Himeyuri Audit Committee

Photo of the audit committee (October)

HIMEYURI Corporation has held the “Himeyuri Audit Committee” twice a year since March 2000 so that representatives from local residents can audit the conditions for maintenance and management at the disposal site. The committee was held on May 20 and October 27 in FY2023.

Disaster prevention drills

On October 31, we held a disaster prevention drill at HIMEYURI Corporation. The drill assumed that burnt residue being transported had spilled onto a public road in which we responded by collecting and cleaning up the spill.

Photo of clean up drill

Donating an ice maker to an elementary school

President Ajima (left) and School Principal Endo (right)

The linear precipitation zone created in the wake of Typhoon Bebinca in September caused extensive rain damage to Iwaki City. This damage resulted in sediment flowing into the school building at Iwaki Municipal Miya Elementary School, and their ice maker, which was vital to preventing heat stroke and injuries among the children, could no longer be used. When hearing about this situation, on February 11, HIMEYURI Corporation donated an ice maker to the school and was in turn presented with a letter and certificate of appreciation from Iwaki City.

Company Profile

Company Name	Kureha Ecology Management Co., Ltd.
Headquarters	30 Shitanda, Nishiki-machi, Iwaki City, Fukushima 974-8232, Japan
Main Business Sites	Headquarters, Waste-Tech Iwaki, Waste-Tech Kanagawa
Established	December 1, 1971
Paid-in Capital	¥240 million
Employees	379 (as of March 31, 2024)
Main Businesses	Collection, transport, and disposal of industrial waste, environmental restoration, construction (environmental engineering), electrical power generation, etc.

Kureha Group Responsible Care Policy

1. Observe international rules and laws
2. Respect the environment and work safely
3. Provide society with safe products
4. Manage and put to good use information about the environment and safety
5. Forge a stronger relationship with society

■Diagram of Kureha Group RC Committee

About Responsible Care (RC)

Responsible Care involves continuously conducting self-improvement activities aimed at preserving “the environment, safety, and health” through all aspects of a chemical's lifecycle - from the development of chemicals to their disposal and recycling following their manufacture, distribution, usage, and final consumption - as well as maintaining an open dialogue with the community. This is done based on the principle of business operators who manufacture or handle chemicals making decisions and accepting responsibility. The Kureha Group officially announced in 1995 that it would conduct RC activities.

Head Office (Iwaki City, Fukushima Pref.)


"Ikoi" Plaza


Exhibition area


Regional Exchange Hall

Waste-Tech Kanagawa (Kawasaki City, Kanagawa Pref.)


Administrative building hall


Visitor passage (4F)


Factory building (1F)

History

December 1971	Establishment of Kureha Kompo Co., Ltd.
October 1975	Changed to Kureha Gyomu Co., Ltd.
March 1977	Permission was acquired to conduct operations to collect, transport, and dispose of industrial waste in Fukushima Prefecture
July 1984	Changed to Kureha Kankyo Co., Ltd.
October 1986	Unit 7 incinerator was developed, installed, and operated in-house
May 1993	The Unit 8 incinerator is developed, installed, and operated in-house
March 1998	ISO14001 certification is acquired
April 1998	Unit 7 incinerator was renewed in-house
April 2006	Changed to Kureha Ecology Management Co., Ltd.
June 2006	Paid-in capital increased to ¥240 million
April 2010	The Kanagawa Plant was opened
April 2011	The Kawasaki Logistics Center was opened
April 2012	The Environmental Solutions Division was opened
April 2014	Waste-Tech Park becomes Waste-Tech Iwaki and the Kanagawa Plant became Waste-Tech Kanagawa
March 2017	ISO9001 certification was acquired
April 2019	HIMEYURI Corporation became our wholly owned subsidiary W.I.L. Center was opened ISO45001 certification was acquired
December 2021	Celebrating 50th Anniversary

Sales inquiries

Industrial waste inquiries
Sales Division
TEL 0246-63-1331
FAX 0246-63-1332

Environmental engineering inquiries
Environmental Sales Department
TEL 0246-63-1358
FAX 0246-63-1359

Inquiries about this report

General Affairs Department TEL 0246-63-1231
FAX 0246-63-1232

The Environmental Report 2024 is also published on our website:
https://www.kurekan.co.jp/information/

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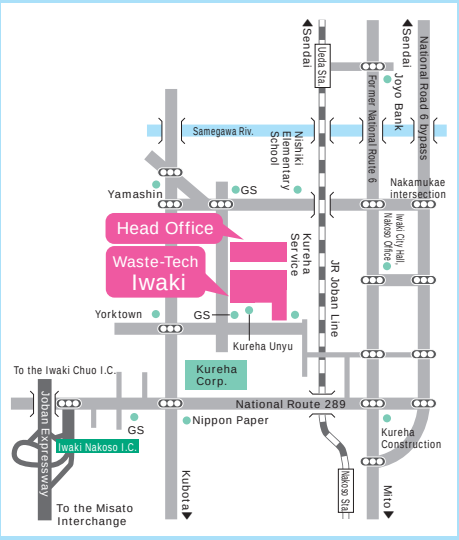
Waste-Tech Iwaki
Address: 136-1 Ochiai, Nishiki-machi, Iwaki City, Fukushima Pref.



Waste-Tech Kanagawa
Address: 6-1 Chidori-cho, Kawasaki Ward, Kawasaki City, Kanagawa Pref.

Fontworks
UD FONT

Easy-to-read Fontworks UD (Universal Design) fonts are used in the text.

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