

ECO 1

Japan's Minister of the Environment has recognized the REMATEC Group as an environmental leader in its



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田中靖訓

Building zero-waste infrastructure through open innovation

With a sufficient number of countries having agreed to its target emission levels and other conditions, the Paris Agreement entered into force on November 4, 2016, prior to its ratification by Japan. The world is now set to revolutionize existing socio-economic values in a dramatic pivot toward decarbonization by setting ambitious goals that go beyond conventional wisdom.

For instance, following a meeting held by its ruling and opposition parties to discuss a policy for switching to green energy vehicles completely by 2025. Norway is reported to be moving ahead with preparations to completely ban the sale of gasoline and diesel vehicles. Indeed, similar reports from other parts of the world

highlight the fact that a major paradigm shift is taking place at this very moment.

The REMATEC Group has set a medium- to long-term management vision of transitioning into a corporate group that plays a leading role in supporting the use of zero-waste infrastructure in society. This initiative is faithful to our corporate mission of using eco-innovation to address social challenges, as well as our corporate slogan of "Innovation for the Earth." By leveraging ideas derived from our wealth of experience to bring about this innovation while also pursuing coexistence and coprosperity with the communities in which we operate, we aim to ensure that our corporate group remains a trusted and indispensable community member.

Special Feature 1 looks at how our group companies are working to adapt to the revised version of ISO 14001 by integrating their various management systems to create a new, more efficient system. We are confident that we will be able to operate our new management system effectively by clarifying the objectives and strategies of each business and organization in our Group, as well as clarifying how we will address the challenges facing them, the needs of our stakeholders and the relevant types of risks. In addition to our business activities, we also prioritize compliance with the laws and regulations governing the various environments in which we conduct our corporate activities. With this in mind, we have established volunteer standards to support more rigorous oversight of these activities. As a responsible member of society, we strive to protect the environment and ensure health and safety for all, while also taking into account the impact that our business has on local communities.

Special Feature 2 describes the open innovation that Re:CS and other like-minded companies from the Kansai region are jointly pursuing with the aim of ushering in the society that we are striving for much more quickly and effectively. The company is committed to fulfilling its mission to create zero-waste infrastructure by building up a strong alliance network that is underpinned by trust.

Editorial policy

The REMATEC Group discloses information on its CSR activities in order to report them to all stakeholders.

This CSR Report 2016 provides an overview of the new management system that we are introducing from this fiscal year. The objectives and advantages of the new system-as well as the 3-year plan that is based on it-are described in terms of both

Target organization:REMATEC Group

- Date of publication:December 1, 2016

This report describes the REMATEC Group's CSR programs and initiatives. For updates on the business and daily operations of our group companies, please visit our website

http://www.rematec.co.ip

- Reference guidelines:
- Sustainability Reporting Guidelines, published by GRI

this report will give you a clearer understanding of the REMATEC Group's CSR activities.

the Group as a whole and its member companies. In addition

to providing information on Group-wide initiatives for tackling

environmental problems, this report also allocates pages to the

initiatives being carried out by each group company. We hope that

The Environmental Reporting Guidelines 2012, published by the Japanese Ministry of the Environment

The Planning Guidelines for Regional Countermeasures against Global Warming, published by the Japanese Ministry of the Environment

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In fact, the extensive network of Re:CS and the rest of the REMATEC Group is united in its efforts to build zerowaste infrastructure.

Our recent drive to expand our business activities overseas has been centered on Southeast Asia. To address the social challenges posed by waste in emerging economies, we have entered into a joint venture with the Siam Cement Group (SCG), Thailand's largest corporate group, to develop a new solution for recycling urban waste using cement kilns. The first plant will enter operation in early 2017. Plans for a second plant are now underway, and the plant is scheduled to come online in fiscal 2017. In Malaysia, our Group is tackling the environmental challenges posed by palm oil mills, which operate in one of the country's key industries. Residue from the palm oil production process contains chlorine, potassium, and other components that make it unsuitable for use as a fuel. As a result, the residue is often left unused. We are working with one of our local partners to convert this unused biomass into fuel and energy by applying our own proprietary technologies, such as those used to remove chlorine and potassium for biomass fuel production and to ferment methane for biogas production. A pilot plant is under construction, and test operations are set to begin by the end of this year.

To build zero-waste infrastructure, we need to pursue open innovation not only within our own corporate group, but also in partnership with like-minded companies, NPOs, and other organizations. The REMATEC Group will continue to collaborate with its domestic and international partners toward achieving this shared goal. We also aim to retain the trust of all of our stakeholders by working to ensure the professional development and happiness of all our employees, while continuing to pursue coexistence and co-prosperity with local communities.

Going forward, we hope that we will continue to enjoy the support of all of our stakeholders.

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Since its foundation, the REMATEC Group has tackled a variety of social challenges in the environmental field. We will continue to pursue innovation by leveraging our experience, our know-how, and our three strengths: planning capabilities, technical expertise, and quick on-site responses.

2010

2011

2012

2014

2015

REMATEC GROUP History

1992



- Launch of RF business
 Construction of an RF plant at the Osaka Plant
- Establishment of our Kitakyushu Office and launch of tank cleaning business

Construction of an RF plant at the Kyushu Plant

Waste disposal and management for the Kansai International Airport construction project

- Replacement of the Osaka Plant
 Transfer of waste disposal and recycling technology (RF production) to Taiwan
- Disposal and management of waste generated by the Great Hanshin-Awaji Earthquake
- Transfer of waste disposal and recycling technology (RF production) to Ulsan, South Korea
- Clean-up of oil discharged from the shipwrecked Russian tanker Nakhodka off Fukui Prefecture

Of the 59,000 tons of oil (including seawater, oily waste, and oily sand) that was collected, we disposed of 10,000 tons (equivalent to 50,000 drums) at our plants and those of our partner companies.

Collection and disposal of fuel oil and coastal clean-up following an accident that occurred during the transportation of livestock feed off Shibushi, Kagoshima Prefecture

After a transport ship ran aground during a typhoon, we collected and disposed of about 600 tons of oil that was left in the ship's fuel tank as well as its cargo and oil absorbents.



Project for cleaning up the illegal dumping site at the lwate-Aomori prefectural border

One of the largest cases of illegal dumping at that time was found at the lwate-Aomori prefectural border. We provided consulting services, including project planning and design of on-site facilities, to help clean up the site.



Construction of the world's first subcritical water treatment plant for commercial use

Disposal of waste discharged from the Grand Lucky when it ran aground off Fukue Island, Nagasaki Prefecture

Comprehensive waste disposal management for Green Front Sakai

Design, construction, and operation support for a biomass oil fuel (BOF) production plant in Iwate Prefecture

- Development of layered-type solubilizing equipment that uses subcritical water for urban methane fermentation systems
- Recycling project for difficult-to-handle waste (NaK project)

Waste (Nak project) Waste Nak, which is a difficult-to-handle alloy of sodium (Na) and potassium (K), was discharged

from a facility conducting research into NaK for use as a cooling agent in nuclear reactors. Under the supervision of experts, we safely recycled this waste to prevent chemical pollution of the environment.

Project for the removal of obstacles caused by specific types of industrial waste dumped illegally in northern Gifu Prefecture

During its disposal, the illegally dumped industrial waste was found to have caught fire. We proposed extinguishing the fire by injecting water underground, and this method proved successful.



Change of the company name to REMATEC Corporation
 Treatment of sewage sludge using subcritical water and

 technical development of methane fermentation systems
 Collection and disposal of fuel oil discharged from a shipwreck off Tsukumi Bay, Oita Prefecture

Great East Japan Earthquake Recovery Project (Iwate Prefecture)



We designed, constructed, and provided assistance for a desalination plant that disposes

of disaster waste covered with seawater, secondary sorting plants that sort temporarily stored disaster waste, and a soil classification plant that disposes of tsunami deposits. We also disposed of disaster waste through our desalination work (about 935,000 tons) and our secondary sorting work (about 840,000 tons in Ofunato City and about 1.19 million tons in Rikuzentakata City).

Consulting services for the collection and disposal of fuel oil and waste discharged from a cargo ship when it ran aground in Kanazawa Port, Toyama Prefecture

When a Panama-registered cargo ship carrying about 3,000 tons of steel and pipes from Dalian, China, ran aground, we collected and disposed of about 400 kl of fuel oil that was left in the ship.



- were niegany dumped in Otsu Oity, Sniga Prefecture
- Establishment of an overseas subsidiary (Thailand) We established REMATEC & KSN Thailand (RKT) as a joint venture with our technical partner Kansai Saisigen Network.
- Construction of a plant for the trial production of biogas from sewage sludge and start of an acceptance test

Hiroshima disaster recovery project We appropriately disposed of waste generated by heavy rain and mudslides in Hiroshima City.



 Establishment of Green Conservation Solutions (GCS) through a joint venture between SCG and RKT
 Startup of the MF Power-1 biogas power plant

Social developments related

International

1960

Partial Test Ban Treaty signed by U.S., U.K., — 196 and Soviet Union 196

1970

1971

 Ramsar Convention (protection of water birds and — 1979 wetlands) effect
 London Convention (regulation of waste dumping and incineration at sea) effect
 Washington Convention (protection of wild plants and animals) effect

1979

- Vienna Convention for the Protection of the 198 Ozone Layer effect
- Sofia Protocol (elimination of acid rain) effect 199

Earth Summit held (Rio de Janeiro) — 199

Rio Declaration, Agenda 21, Convention on Biological Diversity, and U.N. Framework Convention on Climate Change adopted Basel Convention (regulation of transboundary movement of waste) effect

1993

COP3 Kyoto Conference on Climate Change held — 199

1999

- 2000
- 2001
- World Summit on Sustainable Development held 2002 (Johannesburg)
 - Kyoto Protocol took effect 2005
 - ♦1996 Protocol to the London Convention 200 (general ban on dumping of waste at sea) took effect

2008

2009 2011

2012

- COP21 Climate Conference held and Paris 2019 Agreement concluded
 - ◆Paris Agreement took effect 2016



| d t | o environmental issues | |
|--------------|---|----------|
| | Domestic | |
| ۰. ۱ | Period of rapid economic growth | |
| 50 - 53 | | Pre |
| 57 - | Basic Act for Environmental Pollution Control enforced | efac |
| 70 - 71 - | | • |
| /5 | | |
| | | |
| | | |
| | | |
| 19 - | Act on the Rational Use of Energy enacted and enforced | <u> </u> |
| 8 - | Ozone Layer Protection Act enacted | |
| 21 | | |
| | | |
| /2 - | Wild Fauna and Flora enacted | |
| | | Ť |
| 93 - | — Great Hanshin-Awaji Earthquake | |
| | Basic Environment Act enforced Energy-saving and Recycling Support Act enforced | |
| 97 - | | |
| - 89 | Act on the Promotion of Global Warming | |
| . 00 | Countermeasures enacted | |
| 00 - | → Act on Opecial integrates against blocking endeted → Basic Act on Establishing a Sound Material- | |
| | Cycle Society enforced | |
| | (PRTR Act) enacted | |
| | Act on the Promotion of Effective Utilization of | |
| | Resources enforced | |
|)2 - | Act Partially Revising the Act on the Rational Use of Energy (2002 Act on the Rational Use of Energy) enacted | |
|)5 | | |
|)6 | | |
|)8 - | Basic Act on Biodiversity enforced | |
| 9 - | Eco-point incentive program launched | |
| 1 - 2 - | — ●Great East Japan Earthquake — ◆Feed-in tariff system for renewable energy | |
| | launched | |
| 5 | | |
| 6 - | →ISO 9001 and 14001 standards revised | |
| | | |

Two key business domains helping to solve environmental problems

We tackle domestic and overseas environmental problems through our two main lines of business-resource recycling and renewable energy-and our long-term strengths of planning capabilities, technical expertise, and quick on-site responses.



RF business (technologies for making fossil fuel substitutes)

We aim to dispose of waste oil and liquid, the major causes of the marine pollution issue that emerged as a social problem in the 1960s, in an appropriate and eco-friendly way. To this end, we developed reclaimed fuel (RF), which is a reversible thixotropic composite of auxiliary fuel used in cement pyroprocessing (Patent No. 3039644). Using our own proprietary mixing technology, we can transform industrial waste into fuel without causing secondary pollution. In this way, RF can reduce CO2 emissions and other environmental loads. We have recently begun providing Asian countries with technical assistance related to RF.









Each type of waste is stored separately measured using measuring vessels

Waste is kneaded with mixers to produce RF

The quality of the RF

The RF is delivered to cement plants

is checked

Network and logistics business

Our network and logistics business connects the venous industry, which includes businesses engaged in waste recycling, with the arterial industry, which includes businesses engaged in the supply of raw materials, products, and energy. As well as providing various types of vehicles, mainly for the handling of hazardous materials, that are designed to meet our customers' needs, we also offer a comprehensive service for the collection, transportation, and recycling of waste and produce valuable waste by

leveraging the integrated technologies and know-how of the venous and arterial industries. We not only contribute to a reduction in CO₂ emissions by promoting efficient waste recycling, reducing waste generation, and making waste distribution more efficient, but also help our customers to reduce their waste disposal costs.



Biogas power generation business

Biogas power generation involves the generation of power using biogas (a mixture of methane and CO2) generated from organic waste (such as livestock waste, food waste, sewage sludge, and energy crops) through a microbial reaction. This type of power generation has a variety of advantages, such as not generating CO₂ emissions, being capable of producing energy efficiently even from organic matter with a high moisture content, and making it possible to use the processing residue as liquid fertilizer. Our biogas business can also contribute to the local consumption of locally produced energy and to regional revitalization by promoting distributed power generation and regional cooperation.



Environmental restoration business

Renewable

energy

business

In the event of an environmental problem such as soil contamination due an integrated treatment scheme to handle everything from transportation, to the illegal dumping of industrial waste, oil spills caused by shipwrecks or analysis and precision sorting through to waste recycling. We also submit large amounts of debris being generated by natural disasters, we aim to help and implement proposals on how to collect and dispose of spilled oil. By the local residents return to a comfortable and safe way of life by resolving leveraging our Group's strengths, we are able to restore the lives and living the problem quickly and appropriately. To this end, we have established environments of the local residents.

Resource

recycling

business





Operation and

Disposal of damaged cargo

Disposal of waste discharged from a ship that ran aground off Misak Town, Ehime Prefecture

nanagement of a facility for purifying PCB-

Maintenance business

Taking full advantage of the know-how that we have accumulated through our 20 years of experience in equipment maintenance, we submit and implement proposals on maintenance and safety measures that will meet the individual needs of the customer. We also provide a comprehensive



Solar power generation business

Solar power involves the generation of power by transforming sunlight directly into electricity using solar batteries. This type of power generation, which makes use of the natural energy of sunlight, can reduce CO₂ emissions and fossil fuel consumption at thermal power plants. Our solar power generation business is based at three locations in Japan: the Kagoshima Power Plant (location: Makurazaki City, Kagoshima Prefecture; rated output: 1,990 kW); the Okayama Power Plant (location: Kasaoka City, Okayama Prefecture; rated output: 1,990 kW); and the Kumamoto Power Plant (location: Yamaga City, Kumamoto Prefecture; rated output: 490 kW). Expectations concerning the role that eco-friendly energy can play in resolving both energy problems and global environmental problems are growing. We remain committed to the stable production of renewable energy-which offers an eco-friendly means of generating electricity more safely-through the use of the data and expertise that we have acquired with regard to the efficient and stable generation of power. As part of our commitment to corporate social responsibility, we will also contribute to society by reducing the environmental loads.

%The reduction in CO2 emissions attributed to solar power generation was calculated based on the Labeling Guidelines (FY 2015) produced by the Japan Photovoltaic Energy Association (JPEA).

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Collection and disposal of

bil spilled due to a maritime accident in Tsukumi Bay. Oita Prefecture



Consulting services for the collection and disposal of heavy oil and oilcovered articles discharged from a cargo ship that sank in the Uraga Channel off Miura City, Kanagawa Prefecture

management service that proposes recycling and disposal methods suited to cleaning water and other waste generated during the cleaning of large tanks and other equipment.

Ultra-high pressure cleaning

chemical plants

Maritime disaster recovery and waste consulting service

Removal of ultrafine powder



The REMATEC Group has introduced a new system to carry out its mission more reliably and safely

Management philosophy

Building the society we envision

- OA society where people can live safely and comfortably
- OA sustainable society where economic development can be achieved without harming the environment
- OA recycling society that is in harmony with nature

Fulfilling corporate roles and social responsibilities

OPursuing value creation

©Taking responsibility for the effects of organizations on society

OContributing to solutions to social challenges

Safety and health principles

As it strives to contribute to society through its business and other activities, the REMATEC Group recognizes that the health and safety of its employees forms the basis of the company and its social responsibilities. Out of respect for all people, the REMATEC Group promotes health and safety under the guiding principles of "safety first" and "comfortable working environment."

Environmental principles

The REMATEC Group recognizes that conservation of the global environment is a key priority for humankind to achieve sustainable development. Therefore, in accordance with its basic environmental principles for helping to create a sustainable society, the Group carries out its business and other operations in harmony with the environment while working to reduce the environmental loads and to save energy and resources.

Management systems

The REMATEC Group has combined three management systems (business, environmental, and occupational safety and health) with the aim of promoting CSR initiatives and business operations in an integrated manner. It is working on daily business operations and problemsolving from these three perspectives.

With the aim of contributing to the creation of a sustainable society, the REMATEC Group is mobilizing its core technologies for recycling materials to promote the economic and efficient use of global resources.

Corporate slogan and concept for CSR commitment Innovation for the Earth





Management plan

Creating shared value (CSV)

New management system

Communication with stakeholders

Two key business domains

The backgrounds and causes of environmental problems vary greatly from one country or territory to another. In order to help solve environmental problems, the REMATEC Group focuses on two businesses: resource recycling and renewable energy. It works flexibly to meet its challenges in a far-sighted manner in the best interests of each local community.

Three unique strengths

The REMATEC Group contributes to solving the challenges that each local community is facing by bringing together the planning capabilities, technical expertise, and quick on-site responses that it has developed through long years of experience and know-how while keeping close ties with the community, listening to its opinions, and garnering its cooperation.

The REMATEC Remembrance Day pledge and establishment of a new system for ensuring safety

On July 28, 1997, a fire broke out at REMATEC KYUSHU despite the safety management activities and efforts that we had been undertaking on a daily basis. Our desire to draw lessons from this accident led to us observing the date as REMATEC Remembrance Day with keen awareness of the importance of safe work management. Every year, all of our group companies participate in the Group Safety, Health, and Environmental Committee. The committee also held a meeting in 2016, where all of the committee members and executives were united in their desire to enhance and reinforce awareness of safety measures Furthermore, a new integrated management system for managing the Group as a whole was developed in 2016 in response to revisions to ISO standards*. Accordingly, the network that exists among our group companies is being reinforced to facilitate the sharing of useful know-how. In keeping with its 3-year plan, the Group intends

autonomously. Conventional management system **BMS** Environmental Management System (EMS) Business Management Syster → Two different management policy systems were operated in the Osaka and Kyushu areas Management Occupational Safety and Health Management System (OSHMS) Systems → This system was operated EMS **OSHMS** by REMATEC and RÉMATEC KYUSHU New management system To be established in 2018 Environmental Management System (EMS) **REMATEC Group's** egrated Environmental and fety Management System nt with international EMS and OHSAS standa → Operated by five group companies and the integrated system Occupational Safety and REMATEC Health Management System REMATEC REMATE (OSHMS) → Operated by five group companies integrating EMS and OHSAS RTT REMATEC

Introduction of a 3-year plan aimed at having group companies operate their management systems autonomously

In accordance with this 3-year plan, the REMATEC Group is developing management systems that will encourage partnerships and autonomous initiatives among its member companies.



Certified by the EMS (ISO 14001: 2015) group

Each group company to develop its own management system in accordance with ISO 14001: 2015 (overall management to be carried out under the Group-wide integrated system)

he certification scheme is put in place Management System), operations to be integrated with EMS (ISO 14001) in accordance with ISO 45001



to establish a governance system under which each group company can operate its own management system *Environment: ISO 14001: 2015 *Occupational safety and health: ISO 45001 (pending)



REMATEC Remembrance Day in 2016

Purpose of the new system

- (1) To encourage REMATEC Group companies to pursue autonomous initiatives and let them share know-how to enhance the overall level of the Group
- (2) To align the REMATEC Group as a whole with new international standards so as to prevent occupational and environmental accidents. In particular, to add tasks designed to address risks
- (3) To train the core staff in each REMATEC Group company (enhance their skills by holding committee meetings, liaison meetings, and cross audits to continuously improve each company's system).

Advantages of the new system

Clarification of where responsibilities lie

The integrated system reinforces Group-wide governance through independent management systems tailored to each group company.

★Reduced business risks

The system analyzes the business risks faced by each group company and manages the activities that they carry out to eliminate factors that hinder business continuity.

★Enhanced operational efficiency

To enhance operational efficiency mainly with respect to environmental and safety management, overlapping processes are eliminated through integration in accordance with the revised ISO standards.

2017 2018 Group-wide integrated management established along with autonomy of group companies Group-wide integrated environmental and safety management system Governance of group-wide integrated management system Integration REMATEC OHSAS ※ among five companies REMATEC RTT WATEC TOHOKL EMATEC KYUSH R&D EMS System System System *Certification expected in accordance with ISO 45001 (after After the transition from OSHMS to OHSAS | The goal is to have each group company achieve 18001 (Occupational Safety and Health autonomous management in terms of the environment, occupational safety, and health.

Data Results and Three-year Targets of the REMATEC Group for FY 2015

*The data for 2013 was obtained from REMATEC Corporation sites, while the figures for 2014 onward have been obtained since the transition to a holding company.

RF shipments Target organizations: REMATEC Corporation and REMATEC KYUSHU Corporation

Equipment problems affect shipments: Ensuring stable production by improving routine maintenance





Recycling rate (%) Target organizations: REMATEC Corporation and REMATEC KYUSHU Corporation

Equipment problems reduce the recycling rate. Increasing the recycling rate while improving RF production

REMATEC experienced a significant drop in the recycling rate as a result of increased residue discharges being caused by a fall in production due to equipment problems. We aim to make improvements by increasing the recycling rate while securing a stable supply in RF production, REMATEC KYUSHU delivered the same results as in other years, but will continue working to improve the recycling rate.





Aiming to achieve zero accidents by enhancing risk management *Data collection period: January to December of each year



Severity rate: Indicates an accident's severity based on the number of workdays lost per man-hou

*Frequency rate: Indicates the frequency of accidents based on the number of casualties resulting from industrial accidents per man-hour

REMATEC experienced a significant increase in power consumption following the installation of deodorizing equipment. REMATEC KYUSHU experienced an increase in specific power consumption since the adoption of 24-hour operations and the introduction of a new plant and new equipment lead to greater overall power consumption (a great deal of power was consumed during the restoration work carried out following the 2013 fire, and the RF production period was four months, which inevitably led to lower production, thereby increasing specific power consumption). REMATEC KYUSHU's power consumption is high compared to REMATEC, so challenges remain. Both companies will work to achieve gradual reductions.



Fuel consumption and fuel efficiency Target organization: RTT Corporation

The fire that struck REMATEC KYUSHU in 2013 reduced the number of orders received by the Kyushu office in 2014 but sales efforts led to a recovery in 2015. Consequently, fuel consumption increased

From 2016, the Industrial Waste Department will be transferred to REMATEC KYUSHU, and this is expected to reduce fuel consumption. Over the next three years, we will use digital tachographs to promote ecodriving and safe driving, while also aiming to improve fuel efficiency.



%The Tohoku Branch will be closed from FY 2016

Exceeding our planned targets through data analysis and prompt responses in the field

Three solar power plants had entered operation by the end of March 2015. The power generation of these plants was affected by them not being able to achieve their planned targets in months with bad weather and solar panels needing to be replaced after suffering damage in typhoons, but all three of them exceeded their planned targets for the year with help from their local partners

Solar panel deterioration is also

expected to have an impact on power generation. We will work towards meeting our profit plan by pursuing lean and efficient power generation through the utilization of data from the string monitoring system, as well as through the strict management of maintenance costs.



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*The Kumamoto power plant went into operation on August 22, 2014, the Kagoshima power plant on November 27, 2014, and the Okayama power plant on March 27, 2015.

Achievements in FY 2015

REMATEC

| | Social issues addressed | Goal/target | Results | Status |
|--------------------------|-----------------------------|---|--|--------|
| | Environmental activities | Maintain proper inventory and odor prevention measures | 25% | × |
| Environmenta | for recycling | Eco-First commitment | 100%(12 times) | 0 |
| activities | | Ensure waste stability | 96.0 % | 0 |
| aounico | Promote stable operation | Achieve RF shipment goals | 73.9% | × |
| | RF stabilization | Standardization of production technologies/safety management, sharing of intellectual property data | 0% | × |
| | ltem | Goal/target | Results | Status |
| | Human resources development | Safety training by managers | 88.9% (conducted 24 man-hours) | 0 |
| | | Work skills improvement | 64.7% (22 people) | |
| Safety | | Black-belt system (handing down training within departments): 28 | 114.3% (32) | 0 |
| and health activities | | Conduct risk assessment reduction measures | 89.5% (engineering measures: 12; identification, etc.: 73) | 0 |
| | Workplace risk reduction | Patrols by managers, submit improvement proposals | 100% | 0 |
| | activities | Promote My Area activities | 89.4% (42) | 0 |
| | | Ensure that start-up, monthly and legal inspections are conducted | 82.8% (242) | 0 |
| | | Establish a safe speed for forklift operations | 100% | 0 |

REMATEC KYUSHU

| | Social issues addressed | Goal/target | Results | Status |
|---------------|--------------------------|-------------------------------------|-------------------------------|--------|
| | | Reduce power consumption (office) | 105% (61,383 kWh/year) | 0 |
| | | Industrial waste obtained: 26,600 t | 94% (25,040 †) | × |
| | | No. of water quality problems: 0 | 100% (0) | 0 |
| Environmental | | No. of complaints about noise: 0 | 100% (0) | 0 |
| activities | Promote stable operation | No. of complaints about odor: 0 | 100% (0) | 0 |
| aounico | | No. of leaks: 0 | 92% (1) | × |
| | | Abnormal responses: 0 | 100% | 0 |
| | | Stable RF production: 43,700 t | 101%(44,480t) | 0 |
| | | No. of supply problems: 0 | 100% | 0 |
| | Item | Goal/target | Results | Status |
| Safety | Transportation | Campaign for zero traffic accidents | No traffic accidents/problems | 0 |
| and health | Disaster prevention | Disaster drills for abnormal events | 100% | 0 |
| activities | Safety | Accidents/disasters: 0 | 1 | × |
| | Health | Achievement of health target | 95 % | 0 |

RTT

| 1 | Environmental | Social issues addressed | Goal/target | Results | Status | | |
|---|--------------------------|--------------------------------|--|---------|--------|--|--|
| | management activities | Global warming countermeasures | al warming countermeasures Fuel consumption savings/fuel efficiency: 3.53 km/l | | | | |
| | | | | | | | |
| | Safety | Item | Goal/target | Results | Status | | |

REMATEC R&D

| | Social issues addressed | Goal/target | Results | Status |
|----------------------|-------------------------|---|--|--------|
| Environmental | | Commercialization of rare metal recovery business | 100% | 0 |
| activities | Curb global warming | Commercialization of energy recovery business using biomass | 100% | 0 |
| dournabo | Provide information | Increase awareness of environmental technologies | 100% response rate | 0 |
| | Item | Goal/target | Results | Status |
| Safety and health | Transportation | Accidents resulting in worker absence: 0 Accidents not resulting in worker absence: 3 or less | Accidents resulting in worker absence: 1 (chemical injury accident) Accidents not resulting in worker absence: 0 | × |
| activities | Disaster prevention | Health target achievement level: 85% or more | 85.6% | 0 |
| | Safety | Preparedness for earthquakes/other disasters | 3 | 0 |
| | Health | Traffic accidents/violations: 0 | Traffic accidents: 1 (property damage) | × |

Announcement: In June 2015, an industrial accident occurred during construction work ordered by REMATEC R&D. The accident resulted in an employee of a secondary subcontractors being severely injured when he was exposed to chemicals contained in a pipe that was being dismantled. We deeply regret that our failure to provide the original contractors with a written explanation of the dangers that workers would be exposed to upon dismantling the pipe due to the presence of a hazardous substance and appropriate countermeasures led to such a serious accident. We are undertaking companywide efforts to prevent similar accidents from occurring.

REMATEC TOHOKU

| | Item | Goal/target | Results | Status |
|------------------------------------|---------------------|--|---|--------|
| | Safety | Accidents resulting in worker absence: 0 | 0 | 0 |
| | Uaalth | Individual health target | 91% | 0 |
| | Health | Regular health check | 100% | 0 |
| | Environment | Training on waste sorting | 100% | 0 |
| | | Fire and earthquake drills | 100% respectively | 0 |
| Safety and health activities | Disaster prevention | Proper storage and temperature management in waste storage areas | Managed by totaling the amount brought in, processed, and stored as inventory Regular measuring of temperature | 0 |
| | | Ensure employees understand how to handle portable fire pumps | Conducted twice | 0 |
| | | Traffic accidents/violations | Violations: 0 | 0 |
| | Transportation | Accidents resulting in property damage | Accidents resulting in property damage due to vehicles: 2 Accidents resulting in property damage due to heavy machinery: 1 | × |
| | | Eliminate drunk driving | Violations: 0 | 0 |
| | | Improve operational skills for heavy machinery/vehicles | 100% | 0 |

Three-year Targets (FY 2016 to FY 2018)

REMATEC

| | Itom | tom Organization | | Target value | | Pla | ans for implementation iter | ns |
|--------------------------|--------------------------------------|--|---------------|-------------------------------|---------------|--|---|--------------------------|
| | | Ulyanizauon | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | |
| | Dowor | Draduation | Pow | ver consumption per ton of RF | F fuel | Switch external lights in | s in Reduce operation time | |
| Environmental | Fower | FIODUCTION | 17.06kWh/t | 17.01kWh/t | 16.97kWh/t | Reduce operation time | | |
| management activities | | n o t i o n able ations Environmental Safety | | RF shipments | | Work towards stable production of RF fuel | Establish optimum ratio of ingredients and maintain stability | |
| | Promotion of stable operations | | 53,000 t/year | 53,300 t/year | 54,000 t/year | Rethink oils purchased Establish optimum ratio of ingredients | | |
| | | | | Odor index: 10 or less | | Conduct self-monitorin | ng of odors (twice/year) | Odor prevention |
| | Hom | Organization | | Target value | | Pla | ans for implementation iter | ns |
| Salety and health | | organization | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | |
| activities | Workplace risk | Production/ | | Severity rate | | Review prevention measures and | Strengthen prevention measures and | Conduct job training and |
| | reduction | tion Environmental Safety | 0.05% | 0.025% | 0% | enhance follow-up reports | training based on accident case studies | competence assessments |

BEMATEC KYUSHU

| | Hom | Organization | | Target value | | Pla | Plans for implementation items | | | | |
|--|-----------------------------------|--|------------------------|--|---------------------------|---|--|--|--|--|--|
| | псш | | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | FY 2018 | | | |
| nvironmental nanagement activities | - | | Por | wer consumption per ton of RF | fuel | Review power consumptio | Review power consumption at the plant | | | | |
| | Power | Production | 37.78kWh/t | 35.87kWh/t | 34.04kWh/t | Replace equipment that ha | ermittent operation of a tank a ive high power consumption | igitator | | | |
| | Promote stable | | | Achieve RF production goals | | Secure a stable RF fuel supply by ensuring that repair activities, such as equipment inspections, are condr | | quipment inspections, are conducted | | | |
| | operations | FIODUCTION | 45,000 t/year | 46,000 t/year | 47,000 t/year | Ensure monitoring of the tank's inter | nal properties (pH, pressure, temperatur | e, etc.) to prevent abnormal responses | | | |
| | Water quality of flowing water | Environmental Safety | Prevent ti (pH: 5.8 | ne discharging of contaminated to 8.6; transparency: 500 mm | d rainwater or higher) | Monitor quality of water f | rom rainwater treatment equi | pment (pH, transparency) | | | |
| | Itom | Organization | | Target value | | Pla | ans for implementation iter | ns | | | |
| Safety | | organization | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | FY 2018 | | | |
| and health activities | Workplace risk reduction | Norkplace isk reduction Environmental Salety Severity rate/frequency rate: 0% | | | | Site patrols Workers are accompanied by a Activities to ensure that les that such lessons are pass | colleague when performing unstea sons from past accidents/dis ed on to the next generation | dy work or other hazardous tasks asters are not forgotten and | | | |

RTT

| ironmental | Item | Organization | Target value | | Plans for implementation items | | | |
|----------------------------------|--|-----------------|---|--------------|--------------------------------|---|---|---------------------|
| nagement | | | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | |
| ctivities | Reduce fuel consumption All departments | | 3.57km/ℓ | 3.64km/ℓ | 3.71km/ℓ | Eliminate muri (overburder (irregularity) through acco | i), muda (waste) and mura mpaniment by a manager | Vehicle replacement |
| Color. | Item Organizatio | Orgonization | | Target value | | Pla | ans for implementation iter | ns |
| Safety nd health ctivities | | Organization | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | |
| | Eliminate leaks | All departments | Leak incidence of 1% or less (vs. number of transfers) accompaniment by a rr | | | ree on, and provide guidance accompaniment by a manage | on basic operations through | |

| REMA | TEC R | \$D | | | | | | | |
|------------------------|---------------------------------|------------------------|-------------------------------------|-------------------------------------|--------------------------------------|---|--------------------------------|-----------------------|--|
| | | | | Target value | | Pla | Plans for implementation items | | |
| | nem | organization | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | FY 2018 | |
| | | | Commerci | alization of rare metal recover | y business | Test demonstration of a | Investigate passibility of | of | |
| ironmental nagement | Curb global | Development | Test demonstration progress: 60% | Test demonstration progress: 80% | Test demonstration progress: 100% | waste material to battery material production | commercialization | Launch model business | |
| ctivities | warming | Planning | Commercializatio | on of energy recovery busines | s using biomass | Thailand: Start construction of a plant for testing the | Completion of test plant | Testing under way | |
| | | Planning | Case progress: 25% | Case progress: 50% | Case progress: 75% | production of fuel from municipal solid waste | completion of test plant | (to FY 2020) | |
| | Provide information | Planning Operations | | Request response rate: 100% | | Allow tours to increase awareness of environmental technologies | | | |
| | Hom | Organization | | Target value | | Pla | ans for implementation iter | ns | |
| | | | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | FY 2018 | |
| | Workplace | All departments | Conduct patrols (monthly) | | | Identify and improve unsafe and/or defective areas at the site | | | |
| | risk reduction | Plant office | Improvement proposal speci | fications (1 or more/year) | | Develop an improvement proposal system and an improvement cycle | | | |
| Safety | activities | All departments | Machinery list and correction | /inspection record | | Ascertain inspection equipment/machinery and prevent inspection omissions | | | |
| nd health ctivities | Health management activities | | Health check rate: 100% | | | Receive regular specialized h | ealth checks | | |
| | Disaster response training | Plant office | Submit performance report | ubmit performance report | | | en conducting education and | training | |
| | Traffic emergency activities | | Traffic hazard predictions: tw | vice/year; aptitude test: once/ | year | Conduct traffic hazard predic | tions and aptitude tests | | |
| | Diversity | | Three-year development plar | 1 | | Create draft plans | | | |

REMATEC TOHOKU

| | Item | Organization | Target value | | Plans for implementation items | | | |
|------------------------------------|-------------------------------|-------------------------------------|--|--|---|---|--|---|
| | nem | organization | FY 2016 | FY 2017 | FY 2018 | FY 2016 | FY 2017 | FY 2018 |
| | | Production/ | Prevent muddy water from entering rivers to ensure zero complaints from contractor | | Regularly check and imple | Regularly check and implement measures on water entering rivers after rain | | |
| | Environmental conservation | Engineering | Reduce fuel | Reduce fuel consumption when using heavy machinery | | Emergency response drills Prevent dust and suppress | (leak drills) s noise/vibrations Consider | and implement measures to |
| | | Operations | (10% decrease year-on-year) | (5% decrease year-on-year) | (3% decrease year-on-year) | reduce fuel consumption f | or heavy machinery | |
| ronmental lagement ctivities | Legal compliance | Operations | Maintenance a Conduct inspe | Maintenance and inspection of wastewater treatment tank Conduct inspection of regulatory standards and cleaning | | | cedure for legal inspections erifications cation from the contractor | |
| | Resource recycling | Sales Production/ Engineering | Carry out appropriate pretrea generated in our contracted r rejections | atment for all waste reconstruction project: zero | New resource recycling proposals for contractor Propose new treatment methods to increase domestic resource recycling | Zero rejection of our contri Ensure pretreatment of ou Contribute to recycling at t | acted waste r contracted waste the cement plant Propose i | new treatment methods, etc. |
| | Community contributions | All departments | Participate in cleanup activities for the area around the plant (twice/year or more) | | | Participate in cleanup activ Cleanup activities for the r | vities for the streets around the iverbanks | e plant (pick up litter) |
| | Itom | Organization | | Target value | | Pl | ans for implementation iter | ns |
| | | organization | FY 2016 | FY 2017 | | FY 2016 | FY 2017 | FY 2018 |
| Safety d health | | All departments | Frequen | cy rate/severity rate/incident | rate: 0% | Take measures to prevent check if rules are being fol Safety measures when charactering | human error: conduct hazard lowed anging equipment/traffic flow: | prediction activities and propose improvements, etc. |
| tivities | Salety | Production | Accide | ents resulting in property dam | age: 0 | Perform hazard predictions before starting work Establish a system of pointing at items and calling out their status Receive professional education Ubouble-check basic matters | | |
| | Health | All departments | | 85% or more | | | ets (develop and implement g cks | oals individually) |



*Data is being collected on electricity consumed in business activities

Our Eco-First commitment: Progress

In accordance with our social responsibility as a company that recycles industrial waste, we are committed to complying fully with all laws and regulations, as well as undertaking the initiatives described below in order to proactively contribute to society through activities designed to continuously reduce the environmental loads. In addition to submitting reports to the Ministry of the Environment, we will monitor the progress of our initiatives and periodically announce their outcomes.



Commitment 1

Initiatives for forging a recycling-oriented society

*Applicable to REMATEC Corporation and REMATEC KYUSHU Corporation

- Consistently recycle 97% or more of the industrial waste we accept from waste generators.
- Advance our research into the production of fuel by recycling as many kinds of industrial waste as possible to realize a recyclingoriented society.
- Carry out initiatives to forge a recycling-oriented society.

Commitment 2

Commitment 3

environmental burden

Seminar on biogas power generation

in this new energy

source, the seminar

attracted about

200 participants

and received

very favorable

responses

TOHOKU Corporation, and REMATEC R&D Corporation

Initiatives for curbing global warming

*Applicable to REMATEC Corporation and REMATEC KYUSHU Corporation

◆Year-on-year rate

Initiatives for making effective use of waste that

contaminates soil and water and reducing the

*Applicable to REMATEC Corporation, REMATEC KYUSHU Corporation, REMATEC

In June 2016, we participated in Biomass Expo 2016 at Tokyo Big Sight,

where we took the opportunity to introduce our biogas business support

service. During the Biomass Expo Forum, we gave a seminar on our biogas

business. Aimed at providing an explanation of biogas to those interested

RF shipments Up 18%

Reduction of greenhouse gas emissions Up 18%



We were unable to achieve the target recycling rate of 97% due to equipment problems and other issues. Going forward, we will promote more stable operations by improving our equipment and conducting research and development to increase the types of waste we can accept.

Progress in 2015

This fiscal year, REMATEC and REMATEC KYUSHU shipped 97,400 tons of RF, a year-on-year increase of 14,854 tons (18%). This rise in RF shipments allowed us to further reduce our greenhouse gas emissions by $24,509 \text{ t-}CO_2$ compared to the previous fiscal year. As part of the three-year plan that we launched



-year plan that we launched in FY 2016, we aim to ship 98,000 tons of RF (as the total shipments for the two companies) in FY 2016 and to increase our RF shipments by 5% by FY 2019. To achieve this goal, we will continue to actively promote our efforts to curb global warming.

Progress in 2015

Our biogas power generation activities

We built a biogas power plant that uses food and other waste in 2014, and began generating power there in 2015. The power plant produces 817,110 kWh of electricity a year. This output is sufficient to cover the annual electricity consumption of about 154 ordinary households (where the average annual electricity consumption of an ordinary household is about 5,315 kWh). As a new initiative, we also collaborated with Kagoshima University and Eidensha Co., Ltd. to conduct a verification test (under contract) of a biogasification (methane fermentation) system for swine manure, which is difficult to convert into biogas. We will continue accumulating knowledge, gaining experience, and developing technologies to help promote the local consumption of locally produced energy.



Commitment 4

Initiatives for raising environmental awareness both

inside and outside our group

- ** Applicable to REMATEC Corporation, REMATEC KYUSHU Corporation, REMATEC TOHOKU Corporation, and REMATEC R&D Corporation
- Develop human resources that can address society's environmental challenges by organizing our own environmental awareness initiatives. including REMATEC Future Academy.
- Plan and organize guided tours of our plants to increase the public's understanding of waste recycling.

[Plant tours for overseas visitors]

We warmly welcome overseas visitors to our plants. On July 13, 2016, a group of Chinese environmental entrepreneurs visited our Sakai SC plant as part of their environmental technology training program aimed at developing China's environmental industry and improving its environment. On behalf of an organization supporting students of the Thai-Nichi Institute of Technology, we conducted a tour of Zone 7-3 of the Sakai plant on July 28, 2016, for two of the institute's students. On August 3, 2016, trainees from India, the Philippines, Jordan Palestine, Saint Vincent, and Brazil visited our Osaka Plant as part of a JICA training program called "Administrative Efforts to Promote the Use of Energy-saving Technology and Engineers," which is run by the Pacific Resource Exchange Center (PREX).





Activities of the Eco-First Promotion Council

Discussion forum with university students (Forumname :Kankyo Ojisan Gojyozetsu Kai)

Ten Eco-First companies in the Kansai region and 82 university students attended a discussion forum (Kankyo Ojisan Gojyozetsu Kai) at Osaka ATC Green Eco Plaza on January 9, 2016. We exchanged candid opinions with the students about balancing corporate and environmental activities. Both the students and the company representatives renewed their commitment to environmental conservation by setting new goals.





Activities in FY 2016

[In-house education]

In July 2015, we conducted training and tests for ISO 14001:2015 internal auditors as part of our in-house education efforts. We also held workshops that are mainly intended for newly appointed internal auditors. At these workshops, attendees learned about our revised environmental management system and the environmental efforts and approaches of our group companies. In addition, each of our group companies and departments holds a monthly environment, safety, and health committee meeting to address internal and external environmental challenges

proactively and systematically in consideration of the significant environmental impacts that their operations have.



[Education for external parties]

On July 16, 2016, 10 students who are members of an environmental activity club called Ecolosuke at Osaka Prefecture University visited our biogas power plant MF Power-1 and our Osaka RF plant. The students, who are greatly interested in environmental issues, asked us high-level questions about renewable energy and recycling technology. As part of our environmental education efforts, we are happy to conduct plant tours for students and working adults in order to help young people develop an interest in environmental issues.





Of the 40 Eco-First companies certified by the Ministry of the Environment as being companies working to protect the environment, 10 companies headquartered in the Kansai region met up on September 3, 2016, to voluntarily catch non-native fish living in Lake Biwa.

In this activity, a total of 247 people—including nine ministry officials and 11 REMATEC Group employees and family members—competed to catch nonnative fish in Otsu City, Shiga Prefecture. They caught a total of 567 nonnative fish, such as bluegill and black bass, with a combined weight of 17 kg. The fish caught in these activities were processed into fish meal at welfare facilities for the disabled and used for compost and other purposes.

This was the fourth volunteer activity where Eco-First companies have come together to produce outstanding results.

We aim to continue our efforts to protect the global environment and deepen the links among Eco-First companies.

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Data

Working to achieve further progress and create shared value

Foundation of Re:CS

Exploiting our three strengths to produce advanced resource recycling infrastructure

Three Kansai-based recycling companies-Marusan, Kansai Saisigen Network, and REMATEC Holdings-integrated their sales operations to found Re:CS CO.,LTD. with the aim of helping to develop a new venous industry network and establish sustainable resource recycling infrastructure (March 2016).

The new company is expanding its business network by forming partnerships with reliable waste disposal operators and establishing an extensive distribution system linked to cement and steel companies. Given this, it can now meet the needs of both new and existing customers, and provide them with optimal services through its outstanding solution proposals.

By leveraging the various waste recycling facilities and know-how of

the three companies. Re:CS manages the collection, transportation. and disposal of a variety of types of waste in an integrated manner. The company aims to provide a comprehensive resource recycling service by proposing innovative disposal methods, including less costly methods and methods of creating valuable materials from waste

In addition, Re:CS has established the Re:CS Group, which consists of the Idex Group, Hamada Co., Ltd., Kuninaka Environmental Development Co., Ltd., and the Kotoku Group. Based on a relationship of trust with our customers that is stronger than ever, this group will provide optimal disposal solutions, establish a solid alliance network, and create resource recycling infrastructure.





Overseas

Two major projects tackling environmental problems in Asia

Having pursued innovation in its efforts to overcome environmental challenges since its foundation, the REMATEC Group is carrying out several projects that leverage the know-how it has acquired in Japan to tackle environmental problems that have arisen in Southeast Asian countries as their economies have grown.

One of these projects is to establish a proper waste disposal system in Thailand. The country currently buries municipal solid waste (MSW) in landfills without sorting, so it urgently needs to establish an MSW disposal system as it suffers from methane gas emissions, contamination of the surrounding environment, and fires at landfill sites. We have constructed plants that can classify MSW, recycle it into an alternative fuel to coal, and ferment waste to produce methane, thereby helping the country to reduce greenhouse gas





Re:CS's strength: A comprehensive resource recycling service



The Re:CS Group provides a comprehensive service for the integrated collection, transportation, and disposal of all types of waste produced by our customers. With its extensive corporate network, the group can produce flexible, wide-ranging proposals, including on the use of various disposal technologies, creating valuable materials from waste, and recycling waste.

The Re:CS Group discloses information on appropriate waste disposal and proposes innovative disposal methods, such as creating valuable materials from waste and entering into bulk disposal contracts to reduce disposal costs

Re:CS was established by three companies with strong bonds to provide a reliable waste disposal service. The group ensures not only worksite safety, but also thorough compliance, including waste traceability.



emissions and promote energy saving (see the figure below). In Malaysia, we have used empty fruit bunches (EFB), which used

to be discarded after the extraction of oil from palm fruit, to solve environmental problems. Such problems include the destruction of nature resulting from the development of plantations by the palm oil industry and water pollution caused by the waste discharged from oil mills. We successfully developed power generation fuel using EFB in collaboration with Taiheiyo Cement. Going forward, we will continue to support eco-friendly renewable energy businesses to reduce the environmental loads and protect the environment by making effective use of the unused waste biomass discharged from palm oil mills, as well as providing a stable supply of biomass fuel to the Japanese market





REMATEC

REMATEC Corporation

Industrial waste treatment
 Reclaimed fuel (RF) production
 Environmental restoration

To help protect the global environment, we treat and recycle waste appropriately in pursuit of zero emissions.

Our company is implementing initiatives to tackle environment-related social issues through the recycling of industrial waste. In 2015, we transitioned to the 2015 version of ISO 14001, which requires related rules to be revised for implementation from April 2016. Clarification of our goals and objectives enabled us to clearly define our external and internal challenges, as well as those responsibilities that require leadership in advancing our environmental management. We will continue to provide industrial waste recycling services in accordance with these standards so as to make further social contributions in the



Yoshiyuki Yabu President

best interests of our clients.

In the 21st century, humankind is faced with the need to create a zero-waste society. We will work tirelessly to develop new businesses designed to tackle the challenges ahead while seeking support from our fellow group companies.

The key is to enjoy evolving



Commitment of upper

management

Our top priority is to retain our clients' trust by providing a stable supply of high-quality reclaimed fuel. To ensure this, we need to reliably undertake the following four measures: (1) create synergy by having all of our employees work together to ensure smooth cooperation with affiliated companies; (2) improve our biomass power generation equipment and operational management to boost efficiency; (3) implement health and safety promotion activities thoroughly without compromise; and (4) ensure that we complete the transition of our environmental conservation activities to align them with ISO 14001:2015. We will strive to play a constructive role in sustainable social development by responding to social needs for renewable energy while seeking to create harmony between local communities and the natural

from Employee comments



Enhance the potential of individuals to retain trust in our company

environment

Hisashi Sakaguchi Assistant Manager, Production Department It has been almost a decade since I joined this company. When I first became an assistant manager, I struggled at times in adapting to my new role in providing guidance to my subordinates. However, I try to keep in mind the president's favorite key phrase; namely, to "enjoy evolving." Waste treatment involves many low-tech tasks and the effort required to ensure safe operations is intangible. Nevertheless, given that equipment is operated by people, my subordinates and I are committed to enhancing our individual potential through proper management and guidance in accordance with the targets set for upgrading our skills and knowledge. We will try to win trust by carrying out waste treatment appropriately and to gain a good reputation among our stakeholders.

TOPICS

Preventing heatstroke

We encourage our employees to take extra breaks so that they do not push themselves too hard during the unloading and sampling that needs to be performed throughout the day. Unfortunately, they still aren't taking enough breaks. Given this, we are conducting an awareness campaign to encourage them to take early breaks by measuring a heat index called the WBGT for use as a reference value in visualizing the hazard level so that the appropriate timing for breaks can be quickly determined.

Preventing leakage

Our hazardous material facilities have been repaired repeatedly since 1993, and a deterioration in the performance of the pumps has led us to overhaul the facilities. In 2016, three units were repaired after leakage from the sealing was discovered. In addition, a circulation system was introduced in the on-site effluent tank to prevent clogging, and the monitoring system was upgraded so that the load exerted on receptacles could be checked for excessive pressure.



from Stakeholder comment

Our community-based company is now leading the way in the construction of a new social system

Akihito Katabuchi Chairperson, Osaka Industrial Waste Association

Chairperson, Osaka Industrial Waste Association President, Kotoku Cleaner Corporation

The business environment for industrial waste treatment in Japan is expected to be bleak. Depopulation will lead to an absolute decline in the amount of waste that is generated, companies are moving offshore, and companies from other industries are entering this market. The proper treatment of waste using the business model as it stands now will not lead to sizeable growth in the industry.

The REMATEC Group has been leading the industry by adhering to its management philosophy. With REMATEC Holdings at their core, all of the group companies have been fulfilling their corporate roles and social responsibilities to usher in the society that we envision. Their sincere attitude towards resource recycling, global warming, and other environment-related social challenges, as well as their efforts to address them, are laudable. Important clues for how the industrial waste treatment industry might overcome its challenges may be found







in the activities conducted by the REMATEC Group. Ever since it was known as the Kinki Environmental Industry, my company has also been working hard by regarding the REMATEC Group as a role model and a fellow resident of Kishiwada City.

As the industrial waste treatment industry is being forced to transform itself into a general environmental industry, we look forward to the global contribution that the REMATEC Group will make in leading the creation of a new social system that will take root in each community as infrastructure designed to fulfill multiple roles. Group Company Information

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REMATEC KYUSHU Corporation



Commitment of upper

Industrial waste treatment Reclaimed fuel (RF) production Environmental restoration Equipment maintenance

Reclaimed fuel production plant with equipment as safe as that used in chemical plants

Our company's business operations are led by the recycling of industrial waste to produce reclaimed fuel (RF) for cement plants. Once industrial waste has been shipped in, our specialized laboratory routinely analyzes all of the waste components and then conducts mixture testing to assess factors such as the pH level and temperature in order to identify any risks associated with chemical reactions and heat generation. We also diligently study the mixture process used to produce RF, with the aim of ensuring that it has sufficiently better quality, more reliable production, and calorific value



for it to be used as a fuel to replace coal. The factory utilization rate has improved since the reconstruction of the plant in December 2013, and this has led to a steady increase in the amount of delivered products. We will continue to prioritize safety by keeping in mind our responsibility to ensure safety, peace of mind, and confidence.

The key is to evolve and demonstrate resilience

Shinichiro Yano President

Our basic management policy is to maximize the satisfaction of all our stakeholders. The provision of appropriate and stable waste treatment as requested by the companies that entrust us with their waste and the pursuit of coexistence and co-prosperity with local communities-these form the pillars of our business operations. All of our employees work tirelessly to upgrade their skills so that they can take full advantage of our state-of-the-art equipment and contribute to improving the global environment. Going forward, we aim to evolve our company according to the needs of the time and gain greater resilience so that we can respond flexibly to any situation and help build a sustainable society

Employee comments



Taking routine work seriously to prevent another accident

Yoji Fujita Production Section. Production Department

Looking back at the past 10 years of my time with REMATEC KYUSHU, I can recall many fulfilling days but also an accident that shook the very foundations of our company. For one year after the accident, everyone in the Production Section worked day and night to reconstruct the plant so that we could resume operations as soon as possible. Thanks to the kind support of many people, full operations were resumed in 2014. The plant's operations have become much safer for us workers thanks to the introduction of comprehensive inspections for delivered waste and a clear division of work in our round-the-clock operations. Lest we lose this precious workplace that we have been given, we will spare no effort in conducting risk predictions before each day's work and take care in our routine work. In this way, we are committed to becoming an accident-free company that is trusted by all of its stakeholders due to its safe operations.

TOPICS

Enhanced system for the reliable treatment of difficult-to-handle waste

In FY 2015, REMATEC KYUSHU took measures to ensure the stable operation of a new plant that came online in December 2014, as well as to ensure the reliable treatment of difficult-to-handle waste

An additional tank with a capacity of 30 m³ was installed at the plant exclusively for difficult-tohandle waste to ensure reliable treatment. Safety and appropriate treatment are ensured by conducting thorough inspections of the concentration, pH level, pressure, and other parameters of reactive substances before the waste is accented

Thanks to this new reliable treatment system, nearly 100 tons of difficult-to-handle waste can be accepted every month to cater for the needs of clients who would otherwise have trouble disposing of it.

We will continue to work closely with waste generators and other stakeholders to proactively face up to various environmental challenges.

Initiatives for achieving the goals of

our 3-year safety plan

This fiscal year is the first of our 3-year safety plan that has as its goals an accident frequency rate of 0% and a severity rate of 0%. To realize these goals, we will prioritize the following initiatives:

(1) Fully identify particularly dangerous tasks, such as unsteady operations, and provide workers with thorough instructions to avoid unsafe behavior by accompanying colleagues and on-site supervision.

(2) Regularly conduct rigorous patrols and make improvements to address malfunctions and deviations from the 4S principles throughout the entire plant.

(3) Organize activities to pass on to the next generation the experience and lessons learned from past accidents and disasters so that they are not forgotten (e.g., preparation of a REMATEC Remembrance Calendar marked with the date of the past accident).

By following these three priorities, we will create a safe working environment by eliminating unsafe behavior and conditions from the plant.

from Stakeholder comment

A company thriving alongside the local community of Miyakobaru

The Miyakomatsu Promotion Council that was established last March has four working groups: the Hometown Group, which endeavors to pass on local history and culture: the Child-raising Group, which aims to ensure the sound development of pupils and students: the Environment Group, which protects the natural environment and prevents pollution; and the Bridging Group, which promotes exchanges and contact with local residents. Our steady efforts are successfully rebuilding a sense of affinity and local bonds, albeit gradually. These activities are supported by the council officers and other volunteers, subsidies from Usuki City, donations from REMATEC KYUSHU and other sponsoring companies, and local contributions

In our largest summer event, the Hometown Bon Festival, REMATEC KYUSHU kindly sets up a barbecue stand for over 350 participants. Employees of this company take the lead in making preparations, serving, and cleaning. Our small district hosts many visitors thanks to the company's generous help. In April, many REMATEC KYUSHU

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Yuuji Ooto

Director General, Miyakomatsu Promotion Council

employees join our walking event at Tonosama Road, while in June, employees from their Community Office participate in the cleanup campaign organized by our Environment Group. Mr. Yano. the president of REMATEC KYUSHU, participates in our extended meetings and general meetings. We appreciate such moral and material support. At each of the quarterly consultative meetings held on environmental measures in Miyakomatsu, I sense that there is a growing mutual trust between community members and REMATEC KYUSHU as the company reports its sincere efforts to prevent pollution and to ensure safe operations. I should also mention that they maintain flowerbeds and clean up trash alongside national roads in the area, and they organize traffic safety awareness activities early in the morning. The company is clearly establishing a social presence as a good community member.

I sincerely hope for the continued growth of REMATEC KYUSHU, as a leading environmental company that embodies the principle of coexistence and co-prosperity with the local community.

REMATEC TOHOKU Corporation



 Contracting work related to resource recycling
 Coordination of waste recycling
 Business related to local renewable energy system construction



Working with stakeholders toward the co-creation of new businesses and values

This year marks the fifth anniversary of the Great East Japan Earthquake and the third year since the REMATEC Group was united under REMATEC Holdings. The Kesen region of Iwate Prefecture in which we are based is still only halfway to full reconstruction. At hill development construction sites, we are processing removed stumps (tree roots) and earth to prepare a raw fuel material for use at cement plants, while always keeping in mind our commitment to the principle of "safety first." To overcome the challenges faced by our clients in Tohoku, we actively provide waste recycling coordination services,

A view of Ofunato City pressing ahead with the restoration of local communities

including proposals on how best to recycle waste or otherwise turn it into valuable resources. We continue to explore the possibility of recycling untapped local resources into energy sources that will serve as a driving force for reviving the local communities. Leveraging the REMATEC Group's wealth of experience and know-how, all of our employees are united in working together with our stakeholders toward the co-creation of new businesses and values.



Laying the foundations for our company to serve as an indispensable member of the community

Tomokazu Nomura Director

Established after the REMATEC Group was united under REMATEC Holdings, REMATEC TOHOKU is still a relatively young company. We operate in accordance with the Group's policy of prioritizing safety above all else, but accidents resulting in property damage do happen. In light of this, we seek to ensure that all routine tasks are conducted properly as a matter of course. In addition, having obtained ISO 14001 certification in the latter half of fiscal 2016, we have begun working to reduce the environmental loads of our business operations. We are continuing to lay the foundations for us to be recognized as an indispensable partner by local communities in their reconstruction efforts, as well as by other major stakeholders, such as the Ofunato Plant of Taiheiyo Cement.

from Employee comments



Serving as a reliable partner to local communities in their reconstruction efforts

Ayako Saito Business Development Department Having completed the treatment of disaster waste from the Great East Japan Earthquake, REMATEC TOHOKU continues to support local communities in the recycling of resources by taking full advantage of each community's unique characteristics. Assigned to the Desalination Group, I have been supporting the Sales Department since the last fiscal year. My first experience in dealing with industrial waste surprised me in that so many different kinds of waste can be recycled as fuel or raw materials. This discovery really broadened my knowledge. Five years on from the earthquake, recovery and reconstruction efforts are still ongoing. We employees aspire to serve the disaster-affected communities as a company that they can turn to whenever they need help.

TOPICS

Proposals for resource recycling

(1) Waste recycling coordination service

While taking into account the characteristics of each area, we propose new methods for recycling waste generated from activities unrelated to reconstruction in the spirit of satisfying all three parties: the buyer, the seller, and society.

Examples

Recycling waste glycerin into fuel

to reconstruct disaster-affected Tohoku.

- ➡ Used as boiler fuel at asphalt production plants
- Recycling bentonite sludge into a raw material for cement
 Acceptance of sludge became possible through the use of our proprietary auxiliary equipment

(2) Ofunato Project for the development of a local renewable energy system that links the sea, mountains, and people We continue to advance this project, which was selected by the Reconstruction Agency in fiscal 2014 as a leading model for projects

Examples of FY 2015 activities

- Experimental collection of garbage from relief housing Used as a raw material for demonstrating methane fermentation
- Evaluation of resource crop growth by applying liquid fertilizer (digestive juice) made in an experiment last fiscal year
- + Had an immediate effect and demonstrated better growth than chemical fertilizer

from
Stakeholder comments

Working together to leave a proud corporate legacy

a produ corporate regacy

Koshiro Hidaka Plant Manager

Ofunato Plant, Taiheiyo Cement Corporation

With five and half years having passed since the Great East Japan Earthquake, the overall reconstruction of Ofunato City is becoming increasingly visible. This progress owes a lot to the debris removal carried out by REMATEC TOHOKU in the immediate aftermath of the earthquake. Given this, I would like to take this opportunity to express our gratitude.

When the debris treatment was underway in October 2013, REMATEC Holdings began testing biogas power generation in Ofunato City with the aim of building a zero-waste society and promoting local sources of energy for local consumption. Successful testing is already in sight. Moreover, to assist our plan to conduct biomass power generation at our plant, REMATEC is intensifying its effort through a project to develop new fuel in Southeast Asia. The fate of our power generation project will depend greatly on the outcome of REMATEC's development project. Most likely, the project still faces numerous





Waste glycerin



Recycled into boiler fuel



Application of liquid fertilizer made in an experiment last fiscal yea nical fertilizer



Experimental collection of garbage



challenges on the road to devising a viable solution. I am convinced, though, that REMATEC will successfully achieve this by mobilizing its well-rounded capacity for technological development.

With their outstanding technological capabilities, information collecting abilities, adaptability, and human resources, REMATEC TOHOKU has been of great help in the development of our plant. In addition to the recycling operations that our plant entrusts to REMATEC TOHOKU, we hope to explore new business opportunities with them and to work together to leave a proud legacy for future generations.

Group Company Information

REMATEC R&D Corporation



 Overseas operations
 Development of new businesses and technologies



Vigorously pursuing business development in Japan and beyond to lead the post-COP21 world

REMATEC R&D Corporation offers solutions that meet the world's increasingly diverse and complex environmental challenges through the provision of consulting services and commercially viable innovations by implementing the technologies and know-how that the REMATEC Group has cultivated around the world.

As an earthquake-prone country, Japan is now being noticeably affected by climate change associated with global warming. The series of disasters that have struck the country in recent years (such as the Great East Japan Earthquake and landslides in Hiroshima) have caused enormous damage.

In response to these disasters, we have been offering solutions based

on our core technologies, which are underpinned by our planning and development capabilities, our quick on-site responses, and our local knowledge and networks.

With two ongoing development projects (see next page) serving as the pillars of our work, we are also engaged in a project related to fisheries, which is actually the industry in which our group got its start. By combining social considerations concerning fish consumption and fisheries with our traditional strengths in scientific and technical thinking, we are striving to usher in a low-carbon society.



Overcoming environmental challenges through open innovation

Mitsuyuki Nishihara President

In December 2015, ambitious goals for the realization of a lowcarbon society were adopted at the COP21 UN Climate Change Conference held in Paris, along with a requirement for the targets to be reviewed every five years. In the preceding month, we were visited by Mr. Hans-Josef Fell, who drafted the German renewable energy bill. During this exchange, he expressed his great appreciation for our resource recycling business and other activities.

We are joining forces with our stakeholders to engage in open innovation with the aim of responding expeditiously to social needs and tackling environmental challenges. Examples of these efforts include the development of battery materials for storing power generated from methane fermentation, as well as the development of aggregates for supplying nutrients that make effective use of marine resources and help to protect the environment.

TOPICS

Working with partner companies to commercialize the REMATEC Group's proprietary technologies

(1) Pursuit of an energy-saving project based on the production and effective use of an alternative fuel to coal (Thailand)

Through a collaboration with Thai municipalities and local companies, a plant for recycling urban waste into fuel is to be constructed. This plant will make use of a combination of the REMATEC Group's recycling technologies, including waste sorting, the recycling of waste into biogas and the development of an alternative fuel to coal. The plant aims to achieve both proper waste treatment and energy saving through energy recovery.

With a feasibility study having been completed in FY 2015, preparations for the construction of a demonstration plant are underway. We plan to construct the plant in FY 2017 so that fuel production for cement plants and biogas power generation using urban waste (200 t/day) generated in local municipalities can be demonstrated over a four-year period. This project has been commissioned by NEDO as an international demonstration of technologies and systems designed to facilitate efficient energy consumption.



garbage survey being onducted in Thailand -Y 2015)

from Stakeholder comments

Improving the marine environment

through resource recycling is essential



Koji Otsuka Professor Graduate School of Humanities and Sustainable System Sciences, Osaka Prefecture University

In Osaka Bay, our research group is conducting a study sponsored by the Japan Technology and Science Agency with the aim of establishing sustainable fisheries and a new fish consumption culture. The objective of this study is to conduct a comprehensive evaluation of issues related to the fishery environment, fish catches, distribution, and consumption and then identify potential improvements with stakeholders of all generations. The core technology employed here is the creation of fishing grounds with aggregates made using fish bones to supply nutrients.

Improving the ocean environment using ocean byproducts is quite an important concept. We look forward to working together with REMATEC R&D on this research project as we face up to this important task.



(2) Development of low-cost battery materials extracted from waste

Renewable energy is a promising way to achieve a low-carbon society, but one major obstacle that needs to be overcome is how to adjust demand and supply for power so as to cover the gap between generated power and peak consumption. The development of cheap batteries could potentially offer a solution to this problem. To reduce the costs involved in making batteries, our company is working to develop a commercially viable integrated process for recovering indispensable rare metals from waste to produce battery materials.

In FY 2015, we developed a process for reducing costs, and we are now evaluating the process at a pilot plant before beginning test production.



(3) Sharing our technologies across borders

We welcome many different visitors to our facilities so that a wider spectrum of society can gain an understanding of our Group's initiatives. In FY 2015, our facilities were studied by a total of 159 visitors, including members of Germany' Green Party, university students, and members of civic groups.

In FY 2016, we plan to accept interns from Thailand as a part of an active effort to share our technologies predominantly in Asia.



from Employee comments

Roles expected of R&D staff



Kazuhiro Tsuneyoshi Engineering Group, Engineering Department

REMATEC R&D Corporation mainly consists of three groups that fulfill the following roles: planning, R&D, and engineering. I belong to the Engineering Group, which is responsible for the instrumentation of processes.

Presently, I am involved in carrying out testing at a pilot plant for producing battery materials from waste. There are still many things that I need to learn, such as the performance and functions required for each device. In addition, there are lots of obstacles that we need to overcome to transform laboratory data into an actual device. It is hard work, but I aim to live up to expectations by steadily learning and mastering each task. Group Company Information

Data

RTT

RTT Corporation

OIndustrial waste collection and transportation OGeneral cargo transportation Equipment cleaning



Providing safe, high-quality transportation services through the use of professional drivers

Based in Osaka and Kyushu, our company has permits for performing industrial waste collection and transportation in 23 of Japan's prefectures. We use our own vehicles in the Kansai and Kyushu regions, but we service Kanto, Chubu, Chugoku, Shikoku, and other regions in cooperation with our partner companies. This extensive logistics network enables us to cater to our clients' diverse range of needs. Reclaimed fuel-a key product for the REMATEC Group-is delivered via trucks and vessels to cement plants. Our vessels can transport a load of about 700 tons (equivalent to 70 trucks), which

contributes significantly to reduced CO2 emissions. We perform lowcost equipment cleaning safely and quickly on behalf of our clients by leveraging our many years of experience and know-how. As a logistics company that plays a part in both arterial and venous logistics, we prioritize creating a team of professional drivers who are fully committed to safety and quality.

Our company-wide activities are guided by our slogan for this year: "Never forget the basics and always strive for professionalism."

Commitment of upper management



Building trust with our customers and employees

Isamu Hisanaga President

We believe that we earn trust by delivering the optimal service in response to our clients' needs, identifying problems unnoticed by our clients, and proposing and carrying out solutions to such problems. A strong, constructive partnership emerges when our clients pay for the satisfaction that we offer, rather than for our services per se. I believe customer satisfaction is the source of our happiness.

At the same time, I intend to gradually and patiently build trust with our employees through selfdisclosures that gain their interest while getting a firsthand feel for the right distance to maintain. My eagerness alone won't deepen trust-I believe that rapport is a natural product of a consistently sincere, humble, and unpretentious attitude, as well as appreciation and consideration for others.

from **Employee comments**

My challenge to myself Ensuring safety by communicating with my crew

During my more than 20 years in transportation, I have spent 12 years involved in the collection and transportation of industrial waste. This April, however, I was assigned to traffic control. As this is outside my area of expertise. I struggle every day with this new challenge and with doubts about whether I am qualified to perform this job. My role is to protect the safety of drivers by preventing them from ending up in an accident. Most accidents associated with human error are caused by inadequate checks. Given this, I proactively communicate with our drivers to ensure that checks are reliably conducted before transportation begins, while being sensitive to any changes in their health and mental condition. In addition, we help our clients to reduce the costs involved in waste collection and transportation by eliminating wasted time and enhancing our turnover rate.



Takashi Yoshida Chief Traffic Control Department

TOPICS

Boosting global logistics through the launch of a fly-ash transportation service

The REMATEC Group is responding to a shortfall in the supply of biomass fuel by mobilizing its technological development capabilities and its strong international network. We expect to see an increase in both the importing of fuel and the exporting of fly ash (i.e., fuel combustion residue) from power plants.

To boost the underpinning global logistics, our company has begun transporting fly ash from biomass- and coal-fired power plants to cement and construction material plants for the recycling of resources. We are committed to the following: reducing fuel consumption to help curb global warming (elimination of waste caused by unnecessary workers riding in vehicles and enhanced occupancy by eliminating empty vehicles) and eliminating leakage accidents to prevent contamination (joint confirmation of basic vehicle operations and provision of guidance to raise driver awareness).

Coal ash is transported on vehicles designated for carrying powder. The ash is loaded from a silo at a power plant through the upper hatch on each vehicle. It is then unloaded via pneumatic transportation into a receiving tank. Depending on the conditions of the ash (i.e., its specific weight), this seemingly simple task can cause problems such as variations in the loading and unloading times, misjudgments in determining the loading amount to avoid overloading, and clogging of pipes. Adapting to such problems requires experience and ingenuity. Initially, of course, our company lacked the know-how required for powder transportation, so our drivers underwent a rigorous one-month training course run by

from Stakeholder comment

Continuing expectations for the quick on-site responses provided by the REMATEC Group

Yosuke Sugai

Section Chief, Environmental Resource Department Sangi Tuuun Co.,Ltd.

For over 30 years, we have had the opportunity to cooperate with REMATEC in the transportation of reclaimed fuel. Our partnership was further strengthened in 2010 when we established the RTT Corporation in a joint venture with REMATEC.

I was temporarily assigned to work for RTT for about three years when the company was first established. What impressed me the most was the effective on-site responses that REMATEC was able to provide. In the aftermath of the Great East Japan Earthquake, a large workforce was required to process the enormous amount of debris generated in the disaster. The Group guickly recruited local workers





Sangi Tuuun Co.,Ltd. our parent company, to learn basic vehicle operations, acquire know-how that cannot be documented, and find out how to respond to unexpected developments. They returned with the necessary professional skills and experience.

Having become skilled in operating special vehicles, our drivers became more confident and gained more satisfaction from their jobs, which in turn strengthened their sense of commitment. They are now eager to take up new challenges thanks to their enhanced awareness of safety as professional drivers of special vehicles.



and taught them how to sort the debris to an acceptable level for cement processing. This was truly an effective on-site response.

The logistics industry today is facing a serious and chronic labor shortage. To help alleviate this problem, we exchange human resources with RTT during our busy or lean seasons to support one another. I believe that this is also an effective on-site response

Underpinned by this remarkable capability, I hope to see the entire REMATEC Group develop even further. We also look forward to continuing our work with REMATEC so as to harness our synergy.

REMATEC & KSN THAILAND



Planning, development, and investment in resource recycling businesses in Thailand and throughout Asia



Leveraging the REMATEC Group's know-how to tackle the environmental challenges faced by emerging economies

REMATEC & KSN THAILAND (RKT) is mainly engaged in facilitating the planning of waste recycling projects in Thailand, the development of projects for the effective application of untapped resources in Asia, as well as investments in these projects.

The astounding economic growth experienced by Thailand is overshadowed by the environmental degradation caused by landfills containing inadequately sorted urban waste and the inappropriate burning of waste. RKT was able to devise a processing workflow

for the recycling of waste into fuel by employing the know-how of the REMATEC Group, which has experience in tackling various environmental challenges in Japan. In November 2015, full-scale business operations were begun by establishing a joint venture with the Siam Cement Group. We will continue to work with the people of Thailand to help them solve these problems and to take up new challenges with the aim of serving as a hub for the Group's Asian business operations.



Mobilizing technologies and know-how cultivated in Japan to build zero-waste infrastructure in Southeast Asia

> Chanet Rattakunjara REMATEC & KSN(Thailand)Co., Ltd CEO

Thailand and other ASEAN members have achieved remarkable economic growth over the past decade. At the same time, they now face a host of environmental and energy problems. Environmental issues in particular need to be tackled urgently as the development of infrastructure for resource recycling and environmental protection is not keeping pace with the rapid economic growth. Indeed, ASEAN countries are struggling with the same problems that Japan experienced during its period of high economic growth rates. To address these problems, we are adhering to our key concept of zero-waste infrastructure. We are working with our local partner companies to tailor the know-how acquired in Japan by REMATEC and Kansai Recycling Network into an optimal system that takes into account the realities faced in each ASEAN country so that we can propose the right environmental infrastructure to be built there.

from **Employee comments**



Aspiring to lead environmental protection

efforts in ASEAN

Phimon Lertsabanant Chief Financial Officer

Our company may have only a short history of just three years, but our short-term goal is to lead the way in environmental protection not only in Thailand, but also in other ASEAN countries so as to save our precious global environment and help build a sustainable society. As someone responsible for the finance and administration of this company, I will spare no effort in enhancing the value of both our projects and the company as a whole while proactively communicating with our stakeholders.

I am delighted to be a part of this high-minded company, and I take great pride in contributing to our projects.

TOPICS

Establishing the On Nut Interim MSW Treatment Plant

This plant for the production of refuse-derived fuel (solid) was established by Green Conservation Solutions (GCS), a joint venture between RKT and SCI ECO Services Co., Ltd., which in turn is a subsidiary of SCG one of our local partners. An alternative fuel to coal for use in SCG's cement plants can be obtained by producing RDF from the plastics found in municipal solid waste (MSW). Additional benefits include the fact that less waste ends up in landfills and that fertilizers can be produced from organic materials. Overall, this solution reduces the environmental loads.

Biomass project in Malaysia

Biomass power generation is mainly fueled by wood chips and palm kernel shells (PKS). Since the availability of these materials is limited, our company investigated the potential for recycling empty fruit bunches (EFB), which used to be disposed of after palm oil extraction, to produce fuel for power generation. A joint technological



from Stakeholder comment

Technology of REMATEC Group supporting

development of the environmental management

Mr.Teerapon Tirawasin

Managing Director, SCI Eco Services Co.,Ltd. (SCIeco) Vice Chairman of Renewable Energy Industry Club, Federation of Thai Industry Former Chairman of Environmental Management Industry Club, Federation of Thai Industry

First of all, I would like to congratulate REMATEC Group on their long term sustainable success over 40 years in environmental management business. There are many proved occurrences for REMATEC Group as one of the best world class companies. One of the key occurrences is establishing REMATEC Tohoku branch to efficiently response to waste more than 2 million tons in affected areas, during the Great East Japan Earthquake in March 2011. In additional, for case of REMATEC KYUSHU plant accident in 2013, REMATEC KYUSHU has effectively handled situations by systematically investigating and analyzing for causes and implementing preventive rules. Consequently, a year later, new fully-automatic plant was developed. Obviously, this instant resume operation could not be done without trust from community

As Thailand are in beginning of anti-illegal waste dumping era, the government has endorsed new regulations, both for industrial and municipal waste, and closely monitored illegal dumping. In parallel, waste to energy incentive schemes have been launched to promote





development with Taiheiyo Cement Co.,Ltd. and Saraya Co.,Ltd. led to the successful recycling of EFB into fuel. We will continue to work not only in Japan, but also in the rest of Asia to promote biomass power generation as a carbon-neutral solution with a small environmental load.



3R concept and encourage practical waste disposal as well. To be aligned with the nation, in 2015, SCleco's board of directors has approved to establish a joint venture company namely "Green Conservation Solution Co., Ltd. (GCS)" with RKT, a subsidiary company of REMATEC Group. Supporting by REMATEC Group technology and SCleco experience in Thailand, GCS is positioned to develop municipal waste management and waste to energy business. We place our confident not only in REMATEC Group, but also Mr. Tanaka, president of RAMATEC Holdings, who has long and continuous experience in succeeding environmental business, both in Japan and international. We believe that he will continuously develop scheme and business, and integrate his valuable knowledge to support Thailand transition period on environmental management. Finally, I do believe that REMATEC Group would be one of the most important element in developing Thailand environmental management as well as for Japan.

Group Company Information

<u>Re:CS</u>

Re:CS Co., Ltd.

Zero-waste solutions



Creating innovative resource recycling services through close client partnerships underpinned by trust

A company that supports the pursuit of zero waste, Re:CS Co.,Ltd. was established on March 1, 2016, through the spinning off and integrating of the sales departments of three companies with recycling operations based in Kansai. The name of our company, which is derived from our corporate slogan-Re-Creation for Sustainable Society-reflects our desire to help build a sustainable society as a trusted partner to our clients. In addition, the seven leading waste

treatment companies in the Kansai region came together to form the Re:CS Group with a view to providing waste generators with optimal solutions. In response to calls for a sustainable society, we aim to create the zero-waste infrastructure required to provide more advanced resource recycling services and innovate the resource recycling industry.



Partnering like-minded companies to create zero-waste infrastructure for a new era

Yorihiko Shiomi President

Re:CS was born out of the sense of impending crisis that the upper management of its parent companies felt in anticipation of a new era for their industry. Their concerns included a decline in the amount of waste that is generated, an intensification of low-cost competition, and major companies from other industries entering the market. An expansion of waste facilities is extremely time consuming and carries a great deal of risk. Sharing a strong relationship of trust, these three like-minded companies believed that a firm alliance was necessary for their future survival and for them to be able to deliver the services that today's society demands. The sales integration that led to the establishment of Re:CS is also aimed at management integration. Currently, the lineup offered by our sales department has been expanded partly in partnership with four other companies, and robust customer risk management (CRM) is being implemented. We are creating zero-waste infrastructure so that we can provide new resource recycling services that target customers needing low-cost, high-performance recycling with minimal risk.



Celebrating the anniversary of **Re:CS's founding**

guests delivered congratulatory speeches.

On April 4, 2016, we held a party in Osaka to celebrate the anniversary of the founding of Re:CS Co.,Ltd. At the party, an explanation of the purpose of our founding was

provided, our directors said a few words and some shareholders and We would like to thank all of our stakeholders for their participation

Study sessions with partner companies

Re:CS staff organize study sessions with staff from our partner companies so that they can develop the skills required by salespersons and provide our clients with better services. In addition to information exchanges and a program for learning about treatment methods and technologies, the study sessions include tours of the facilities operated by the participating companies and lectures by guest speakers.

from Stakeholder comments

Zero-waste infrastructure-Japan's

priority issue-to be underpinned by Re:CS



Nobuo Nakamura President a-Socca, Inc.

A dramatic paradigm shift toward the pursuit of zero-waste economies is occurring in societies around the world, as showcased by the UN Sustainable Development Goals and the European Commission's Circular Economy Package. Japan, however, does not have sufficient zero-waste infrastructure to make this transition possible, and we have been concerned that this weakness will pose challenges to the Japanese economy. I was quite surprised, then, when I heard that the presidents of three companies (Kansai Resource Network, Marusan, and REMATEC Holdings) had decided that they would integrate their sales departments and management in the near future in order to create zero-waste infrastructure. Desiring to support their efforts, we decided to acquire a share, albeit a minor one, in Re:CS. Just 40 years ago in 1976, Yamato Express launched a door-to-door delivery service, and thanks to the infrastructure that they built, door-todoor deliveries are now common practice. We have high hopes that Re:CS Co.,Ltd. will similarly grow to one day become a company that underpins zero-waste infrastructure.







from Employee comments

Seeking to become the go-to person for our clients whenever they need help



Takeshi Koyama Solution Business Department

It has been several months since we began our operation here in April 2016. At first, it felt as if we were working in sales for other companies under the same roof. Given that we even exchange jokes now. I feel that we are gradually building up our team spirit.

In terms of the work that we perform, the sales integration of our three companies has also encouraged clients to request different kinds of support from us. I also notice that we are collaborating much more closely with our clients now. Initially, we were not sure how things would develop after the fast-paced establishment of this new company. Now, though, I aim to drive the sales growth and business expansion of our company so as to become the go-to person for our clients whenever they need help.

aw materials

Soot and dust _____ 1,236

Waste plastics — 1,150

Animal and plant residues 328

_____ 21

____0

1.6%

1+2 Waste oil 60.9%

3 Raw materials (t) **37,064**

Recycled fuel 37,064

Collection (transportation) business

Light oil consumption (k@) 387.5

RTT Osaka Branch Kyushu Branch Tohoku Branch 387.5 184.2 168.7 34.6

Gasoline consumption (k@) **1.0**

RTT Osaka Branch Kyushu Branch Tohoku Branch

1.0 0.7 0.0 0.3

Cinders ——

Waste alkalis Waste plastics 5.1% 1.7% Waste acids 4.5%

Scrap metal -----

Waste oil from ships (t) 1,056

Animal and plant residues **0.5**%

Soot and dust **1.9%** Waste oil from ships

Sludge Total amount of accepted waste

23.8% 65,750t

36.0%

|| Qualifications









100



200





Major qualifications

(Qı

| | | | Unit: persons |
|------|---|----------------------|-------------------------------|
| Туре | Name | Qualified in 2015 | Total (including officers) |
| NQ | Class 2 boiler engineer | 0 | 5 |
| NQ | Professional engineer (biotechnology) | 0 | 1 |
| NQ | Associate professional engineer (biotechnology) | 0 | 1 |
| NQ | Professional engineer (environmental engineering) | 0 | 2 |
| NQ | Professional engineer (general technical management) | 0 | 1 |
| NQ | Class 1 construction management engineer | 0 | 2 |
| NQ | Class 2 construction management engineer | 0 | 2 |
| NQ | Class 1 plumbing management engineer | 0 | 1 |
| NQ | Class 1 equipment maintenance engineer | 0 | 1 |
| NQ | Class 2 architect | 0 | 1 |
| NQ | Energy management engineer | 0 | 2 |
| NQ | Class 1 electrical engineer | 0 | 1 |
| NQ | Class 2 electrical engineer | 1 | 3 |
| NQ | Class 1 health supervisor | 1 | 11 |
| NQ | Class 1 air pollution control manager | 1 | 3 |
| NQ | Hazardous materials engineer (type A) | 1 | 11 |
| NQ | Hazardous materials engineer (type B, class 1) | 2 | 12 |
| NQ | Hazardous materials engineer (type B, class 2) | 0 | 16 |
| NQ | Hazardous materials engineer (type B, class 3) | 1 | 14 |
| NQ | Hazardous materials engineer (type B, class 4) | 1 | 93 |
| NQ | Hazardous materials engineer (type B, class 5) | 2 | 12 |
| NQ | Hazardous materials engineer (type B, class 6) | 8 | 24 |
| NQ | Hazardous materials engineer (type C) | 0 | 33 |
| NQ | General poisonous or deleterious substance handler | 0 | 7 |
| | | | |
| ST | Operations chief for organic solvents work | 3 | 50 |
| ST | Operations chief for specified chemical substances work | 0 | 17 |
| ST | Operations chief for work involving a risk of oxygen deficiency or | 2 | 59 |

34 REMATEC GROUP

NQ: National qualification SP: Special education ST: Skills training

O: Others

Liniti norooni

| | | | Unit. persons |
|------|---|----------------------|-------------------------------|
| Туре | Name | Qualified in 2015 | Total (including officers) |
| ST | Operation of vehicle-type construction machinery (for ground leveling) | 1 | 11 |
| ST | Operation of vehicle-type construction machinery (for demolition) | 1 | 6 |
| ST | Training of supervisors for the transportation of high-pressure gas (class 1; flammable gas and oxygen) | 0 | 1 |
| ST | Training of supervisors for the transportation of high-pressure gas (class 3; LP gas) | 0 | 1 |
| ST | Boiler engineer | 0 | 2 |
| ST | Ordinary class 1 operations chief for work handling pressure vessels | 0 | 2 |
| ST | Operations chief for work using specified chemicals and tetraalkyl lead | 4 | 25 |
| ST | Class 2 operations chief for work involving a risk of oxygen deficiency or exposure to hydrogen sulfide | 0 | 7 |
| ST | Forklift operation skills | 4 | 80 |
| ST | Training in operational skills for high-elevation workers | 1 | 7 |
| ST | Operations chief for loading and unloading work | 3 | 12 |
| ST | Training in gas welding skills | 1 | 26 |
| ST | Training in slinging operation skills | 1 | 52 |
| | | | |
| SE | Special training in work involving a risk of oxygen deficiency, etc. | 0 | 2 |
| SE | Special education on operating cranes no heavier than 5 tons | 0 | 22 |
| SE | Special education on operating winches | 0 | 9 |
| SE | Operation of small-scale mobile cranes | 0 | 29 |
| | | | |
| 0 | Ordinary lifesaving training | 0 | 26 |
| 0 | Advanced lifesaving training | 0 | 2 |
| 0 | Education and training in first aid for traffic accidents | 0 | 2 |
| 0 | Education of foremen | 0 | 21 |
| 0 | Education of foremen and safety and health controllers | 0 | 17 |
| 0 | Training for newly appointed safety officers | 1 | 3 |
| 0 | Training for ISO 14001 internal auditors | 1 | 4 |
| 0 | Waste manager | 6 | 15 |
| 0 | Technical manager for intermediate industrial-waste processing plants | 1 | 7 |
| | | | |



Туре

Konoe Fujimura Co-President Japan Association of Environment and Society for the 21st Century

This is the fourth time I have provided feedback on the REMATEC Group's CSR report in my capacity as an external advisor, and the Group has undergone a number of changes since I began doing this. Examples of these changes include REMATEC's reorganization into a holding company and its overseas expansion. With the global environment deteriorating in an increasingly chaotic world, I believe that such changes are a result of the struggles and challenges that the president has faced in ensuring their survival as a valuable company in an increasingly competitive industry. This report suggests that his ideas are gradually taking shape.

The message from the president envisions the construction of zerowaste infrastructure through open innovation. As part of this effort, the company has established a new management system while also designating a REMATEC Remembrance Day to help ensure safety. Another notable initiative that indicates a new direction for the industrial waste industry is the company's establishment of Re:CS Co.,Ltd. by integrating its sales department with those of other companies in pursuit of further evolution and shared value creation.

With three years having passed since REMATEC's reorganization into a holding company, it seems that the benefits are gradually becoming visible. For instance, the business overviews provided by each of the Group companies seem clearer than they were the previous year. The comments made by upper management and employees demonstrate their passion and commitment to their work, while the comments made by stakeholders in Japan and abroad suggest that the Group has built a relationship of trust with them and that its value as a bridge leading local communities to a brighter future is gradually being accepted

It is a shame, though, that there is insufficient overall data to demonstrate their environmental performance. In particular, as I also pointed out last year, a significant reduction in CO2 emissions will be

required under the Paris Agreement. Both the Group and its member companies will need to accurately track

the amount and sources of their CO2 emissions so that they can take adequate measures. Moreover, the report fails to demonstrate the overall social contributions that the Group companies have made in reducing CO₂ emissions through their renewable energy businesses and energy-saving activities. An overall understanding of the emissions generated by the Group's own companies and the reductions achieved through its business activities would enhance social trust in REMATEC as an environmentally conscious corporate group.

In terms of the Group's environmental management activities, it is disappointing to see that there has been a significant drop in the recycling rate and some other failures to achieve goals and targets. With respect to safety and health activities, it is regrettable that another accident has been reported. I expect these problems will be resolved when the new management system takes hold properly and the REMATEC Remembrance Day pledge is honored by more and more employees. Let us not forget, though, that essentially everything depends on the awareness and behavior of the individual employee. When the Paris Agreement came into effect, the world made a pivot toward pursuing a decarbonized society. The road ahead for REMATEC certainly won't be a smooth one during such a significant turning point for our civilization.

Even so, I would like to see all REMATEC Group companies continue with its efforts to realize their vision of becoming a corporate group that plays a leading role in supporting the use of zero-waste infrastructure in society. To this end, the Group should harness the uniqueness and autonomy of each of the companies while also encouraging cooperation among them



In FY 2015, we carried out track record management as we recognized

the importance of improving the quality of our disclosed data. Unfortunately, part of our power consumption cannot be tracked because the building or facility owners bundle the power consumption together or the power companies do not provide detailed statements. Given this, we have postponed disclosure of our power consumption to ensure that we do not inadvertently mislead our stakeholders. Admittedly, our recycling rate has dropped and an accident was reported, but each and every one of us will get back to basics to fix our problems while searching our souls to see if our experience and confidence did not lead us to overestimate our abilities

From the next fiscal year onward, we will continue to try and put ourselves in the position of our readers when producing reports in order for our Group's management philosophy and activities to be understood by as many stakeholders as possible.



http://www.rematec.co.jp/rematec/



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Response to External Adviser Feedback

Three years on from the reorganization of REMATEC into a holding company, it is very encouraging to receive a positive evaluation of the determination and growth demonstrated by each of the group companies, as described in this report. It is also pleasing that Re:CS Co.,Ltd. has been recognized for implementing initiatives to guide the industry in a new direction, and this fact has convinced us that our corporate culture should continue to value quick and flexible responses in facing up to challenges.

The REMATEC Group has set a medium- to long-term management vision of transitioning into a corporate group that plays a leading role in supporting the use of zero-waste infrastructure in society. To achieve further growth and expand our business domains accordingly, it is essential that we collaborate with our business partners by adopting the concept of open innovation. Each company aims to identify different challenges according to their region and expertise and create shared value in their respective solutions. To do this, we will continue building trust with our stakeholders both in Japan and abroad through proactive communication.





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