

Environmental Management

*Please see pages 14 to 21 for more information on our efforts to become carbon neutral.

Basic Environmental Guidelines

1. Promote reduction of CO₂ emissions generated by business activities and the greening of electric power by constructing offshore wind power plants, etc., to contribute to the realization of carbon neutrality
2. Communicate with local communities, and strive to achieve carbon neutrality, create a recycling-oriented society and create, conserve and restore environment through the development of environment-related technologies and environmentally-friendly design and construction.
3. Continuously educate the employees of POC and subcontractors on the importance of environmental conservation activities, and strive to prevent environmental accidents, etc.

Environmental Management Initiatives

Environmental Management System

Our environmental management system conforms to ISO 14001 standards. The environmental management system is controlled by the Quality and Environmental Management Committee, established under the CSR Committee chaired by the President and Representative Director, and applies to all of POC's business activities (construction activities and business activities in our offices).

We formulated the "Integrated Manual" that outlines the rules and procedures for corporate management in conformity with the certified environmental management system and quality management system, and implement it across the organization. In addition, we continuously provide training sessions to employees, including management system training for young employees. Informing and educating our employees.

Environmental Patrols

We conduct environmental patrols at construction sites of domestic branches at an early stage after the construction start in order to prevent environmental accidents such as air pollution, water contamination, soil contamination, noise, vibration, ground subsidence and foul odors, and to eliminate the violation of environmental laws and regulations, as well as to prevent the occurrence of environmental complaints.

Compliance with Environmental Laws and Regulations

Today, companies are required to manage their business activities in consideration of environment conservation in all aspects, including global warming and waste management, and must keep track of their compliance with environment-related laws and regulations. We strive to prevent violation of environmental laws and regulations by responding quickly to the latest revisions of environmental laws and regulations. There were no violations of environmental laws and regulations in the FY 3/22.

Company-wide environmental targets

Environmental Targets	Medium/long-term Targets	FY 3/2022s		Evaluation	Environmental Targets for FY 3/2023
		Targets	Results		
Measures against global warming	FY 3/2031 Company-wide Scope 1 and 2 emissions of 210,000 t-CO ₂ or less (50% reduction from FY 3/20) FY 3/2051 Achievement of carbon neutrality	Reducing CO ₂ emissions per unit of construction activity by 25% from the FY 3/1991 level by FY 3/2031. Reducing CO ₂ emissions by 21% or more from FY 3/1991: 44.99t-CO ₂ /100 million yen or less	38.9t-CO ₂ /100 million yen	○	Company-wide Scope 1 and 2 emissions of 363,000 t-CO ₂ or less Domestic Scope 1 & 2 emissions: 127,000 t-CO ₂ or less Overseas Scope 1 and 2 emissions: 237,000 t-CO ₂ or less (Base year FY 3/20: -4.5%/year)
	Company-wide Scope 3 emissions in FY 3/2031 2,949,000 t-CO ₂ or less (30% reduction from FY 3/20)	-	-		Company-wide Scope 3 emissions: 3,869,000 t-CO ₂ or less (Base year FY 3/20: -2.7%/year)
Promotion of environmental and social contribution	Reducing company-wide office electricity consumption by 5% from FY 3/21 by FY 3/26. Ensuring the entire energy consumption at the headquarter's offices is covered with green electricity	Reducing electricity consumption in all offices by 1% or more from the previous fiscal year	Company-wide electricity consumption 2,993 kWh 3.9% increase from the previous year	×	Integrated into CO ₂ emissions reduction targets
Mitigation of environmental risks	Prevention of environmental accidents ·Zero environmental accidents ·Zero environmental violations	Prevention of environmental accidents ·Zero environmental accidents ·Zero violations of environment-related laws	Environmental accidents: 1 Violation of environment-related laws: 0	×	Prevention of environmental accidents ·Zero environmental accidents ·Zero violations of environment-related laws
Promotion of recycling	Increase the effective utilization rate of construction generated soil to at least 80% by FY 3/25.	The effective utilization rate of construction generated soil: 80% or higher	86.8%	○	The effective utilization rate of construction generated soil: 80% or higher
Promotion of environmentally conscious design	By 2025, increase the number of items adopted for environmentally friendly design to at least 6.0 per project.	FY 3/22: Increasing the number of items adopted for environmentally friendly design to at least 3.0 per project	4.2 items per project	○	Increase the number of items adopted for environmentally friendly design to at least 4.0 items per project.
	By 2025, all warehouses shall achieve an overall rating of B+ or higher and over 70% of buildings for other use shall achieve an overall rating of A or higher under the CASBEE ratings. In addition, for buildings for all uses, over 70% of the entire projects shall achieve an overall rating of A or higher.	All warehouses shall achieve an overall rating of B+ or higher and over 70% of building for other uses shall achieve an overall rating of A or higher	Warehouse "B+" or higher: 100% Other uses "A" or higher: 100%		○
	-	The total reduction in primary energy consumption compared to the reference modal shall be at least 35% or higher for the entire projects applying for the Building Energy Conservation Act by 2025. FY 3/22: The total reduction rate in primary energy consumption compared to the reference model shall be at least 30% or higher for the entire projects applying for the Building Energy Conservation Act	39%	○	The reduction rate in primary energy consumption compared to the reference modal shall be at least 40% or higher (including energy creation) for the entire domestic construction projects by 2030, and at least 42% or higher (including energy creation) for projects designed by POC. For FY 3/23, the total reduction rate in primary energy consumption compared to the reference model shall be at least 31% or higher for the entire projects applying for the Building Energy Conservation Act

Environmental Education

Specialized Environmental Training

We provide specialized environmental training to keep all employees apprised of the necessary knowledge of overall environmental management at construction sites and the key points of legal revisions.

The Specialized Environmental Training is provided every year at the headquarters office and branch offices, and we ensure employees' participation on a regular basis (once every three years). 689 employees took part in this training in FY 3/22.

Specialized Environmental Expert Training

The training was held for employees of the Environment, Health, Safety and Quality Divisions Group at branch offices, with a total of eight participants for FY 3/22. The training is expected to help them observe with a wider point of view during the branch patrols, while providing more far-reaching training for construction staff.

<Management System Structure Chart>



Creating a Nature-Rich Environment Creation and Maintenance of Marine Environment

Environment
Creating a Nature-Rich Environment

Social
Affiliating with Society

Governance
Promoting Effective Corporate Governance

Initiatives to Create and Maintain Marine Environments

We are working on the creation and maintenance of the marine environment as a measure to conserve biodiversity and combat climate change by utilizing our extensive experience and knowledge gained from civil engineering work in coastal and marine areas.

To conserve biodiversity in shallow areas and tidal flats, we are working on the development of shallow areas and tidal flats using calcia-modified soil, which is easier for organisms to settle than conventional materials. We recycle removed soil for backfilling tidal flats in an attempt to restore them to their pre-construction state, as well as to minimize the impact on tidal flat organisms.

In addition, as a measure against climate change, we carry out evaluation on the carbon fixation as blue carbon in the newly-created tidal flats, in order to contribute to carbon recycling through the creation and evaluation of tidal flats.



Shallow ground and intertidal flat development (injection of Calcia-stabilized soil)



Shallow ground and tidal flat development progress (eelgrass growth)



Temporary placement of tideland topsoil



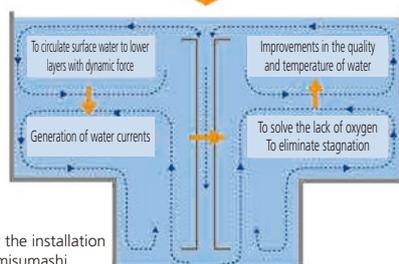
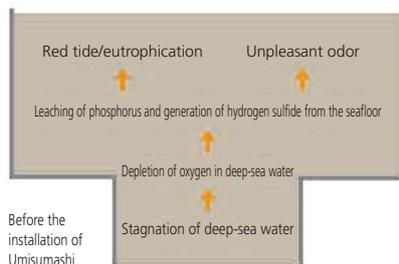
Restored tidal flats

Water Purification

By generating water currents with dynamic force, Umisumashi eliminates the stagnation of water flow near the seabed, restores dissolved oxygen, and reduces the elution of nutrients that cause eutrophication and sulfides that are harmful to benthic organisms. It is also effective in improving water temperature by stimulating heat transfer through mixing of surface water and bottom water.



Umisumashi



Calcia Stabilizing Technology

Calcia stabilizing technology improves the physical and chemical properties of dredged soil by mixing soft dredged soil generated in ports and harbors with Calcia stabilizing material generated in the process of steel making (material made by controlling the composition and adjusting the particle size of converter steel slag generated in the process of steel making), etc. The Calcia stabilized soil made by the Calcia stabilizing technology, in addition to improving the strength of soft dredged soil and ensuring its long-term durability, it has the feature of preventing and controlling the elution of harmful substances and the suppressing of turbidity. Taking advantage of these characteristics, it is used as a reclamation material, a backfill material for seawalls, and a submerged dike material to prevent the siltation in shipping routes.

Moreover, since organisms can settle more easily in Calcia-stabilized soil than in concrete, it is also used as a fishing reef and algae reef.

Overview of the Calcia Reforming Technology



<Applications of Calcia stabilized soil>



Calcia Improved Soil Drop Mixing Vessel

The drop-mixing method is a method of mixing dredged soil and Calcia stabilizing material to make Calcia stabilized soil by using a mixing action when material falls at the transfer section of the belt conveyor. Suitable for large-scale construction of 3,000 m² or more per day.

To enable efficient construction, we have built a reclaimer vessel (a work vessel that unloads dredged soil to a reclaimed site by a belt conveyor) equipped with a supply hopper, a supply conveyor, and a conveyor for dropping and mixing the Calcia stabilizing material, and are used in actual construction work.



Recycling Business

Construction-generated Soil and Sludge Recycling Business

- Ichikawa Soil Recycling Center
- Yokohama Soil Recycling Center
- Nagoya Soil Recycling Center

Overview of the business

This business operates Soil Recycling Centers (in Ichikawa, Yokohama, and Nagoya) that perform accumulation, intermediate treatment, and shipment of generated soil in order to reuse construction soil, contaminated soil, and construction sludge generated in the Kanto and Chubu regions over a wide area.

Characteristics of the business

- To reduce the transport distance of trucks by making the most of our positional superiority in the Kanto and Chubu regions.
 - To accept sediment 24 hours a day.
 - Mass transportation by large ships is possible using a quay that can accommodate up to 10,000-ton class ships.
- ➔ **High cost competitiveness** for transporting large volumes of generated soil in urban areas

Nationwide Recycling Operations Network



Image of the wide area use of construction sludge

Land transport
(soil excavation, shield factory, off-site removal)

Normal construction

Transport construction sludge outside with a dump truck

Polluted soil excavation

Transport polluted soil outside (landfill disposal) with a dump truck

Sludge removal work (shield tunnel, etc.)

Discharge of construction sludge from the site by tank trucks, etc.

Nagoya Soil Recycling Center
(accumulation, intermediate treatment, and shipment of construction sludge)

Construction soil is stored in an outdoor yard and moved by a belt conveyor.

Intermediate treatment and storage of contaminated soil indoors, and transportation of contaminated soil from the indoor area by a belt conveyor

Intermediate treatment and storage of construction sludge indoors, and transportation of construction sludge from inside by a belt conveyor

Marine transport (marine transport, wide area use)

Mass transport by ship, wide area use

Landfill facility (landfill disposal)

Cement manufacturing facility (used as raw material)

Purification facility (used as purified soil)

Landfill development site (used as landfill material)



Ichikawa Soil Recycling Center



Yokohama Soil Recycling Center



Nagoya Soil Recycling Center

- Sendai Ecoland

Overview of the business

This business improves (granulates and solidifies) inorganic sludge* generated from construction and mining work and recycles it as construction material "Simarussa" (reconditioned sand).

*Sludge that cannot be used as is, such as construction sludge mixed with cement or bentonite or with a high water content ratio.

Characteristics of the business

- Granulation and solidification of construction sludge with high moisture ratio in a few minutes
- **No need for pre-treatment** such as dewatering and drying when granulating and solidifying construction sludge.
- No water pollution, no noise, no vibration, no dust, etc.
- Simarussa (reconditioned sand) is **strong enough to be used as a civil engineering material.**



Before treatment



After treatment

*This business is conducted by JAIWAT Co., Ltd. (our wholly owned consolidated subsidiary)

Paper Sludge Incineration Ash Recycling Business (Sodegaura Ecoland)

Overview of the business

This business manufactures a water-absorbing mud stabilization material "Watoru" made from paper sludge incineration ash discharged from papermaking companies, and supplies it for construction.

The water-absorbing mud stabilization material "Watoru" is a hydration-treated product made by mixing a special chemical with incinerated ash from paper manufacturing sludge generated by papermaking companies. In addition to physical reforming through water-absorbing (with an instantaneous reforming effect), it also has chemical reforming ability over time (with gradual strength development).

It is highly effective not only for processing dredged soil in harbors, rivers, and lakes, but also for processing mud and sludge generated by excavation on land.

Because this material absorbs (in Japanese, taking, or "toru") water from mud, we have named the product "Watoru" ("water taking").

*Technical evaluation/patent
Ministry of Land, Infrastructure, Transport and Tourism, New Technology Information System (NETIS) Registration Technology (Registration No. TH-160010-A)



Panoramic view of the facility

Features of "Watoru"

- High water absorbency : Has an immediate effect, reforming sludge into soil in a few days.
- Deodorant effect : Quickly deodorizes bad odors such as hydrogen sulfide odor of dredged soil.
- Neutralizing and solidifying material : The reformed soil is weakly alkaline and becomes more neutral over time.
- Safety : Treated with a chemical using special chemicals and is not hazardous.



Water-absorbing mud stabilization material "Watoru"

Instantly reforms mud



Before treatment with Watoru



After treatment with Watoru

*This business is conducted by JAIWAT Co., Ltd. (our wholly owned consolidated subsidiary)

Food Waste Recycling Business (Miki Composting Center)

Overview of the business

This business processes and sells compost materials made from organic waste discharged from food-related companies, etc.

Characteristics of the business

- With the automatic agitator (scoop-type) and the forced air circulation (aeration), collected food waste is subject to primary fermentation for about 1 month, and then further fermentation and maturation for about 3 months to produce complete compost.
- Since the Miki Composting Center is located near the Hanshin district with concentration of many food-related companies and easily accessible from interchanges of the expressway, it can contribute to the reduction of waste transport costs.

Use of recycled product (compost "Minami-No-Hikari")

- Because it is made from food waste, it is a safe and nature-friendly organic compost.
- Fully matured after four months of fermentation and aging, there is no unpleasant odor.
- Fully meets the quality standards of the NPO Japan Bark Compost Association, surpassing common composts. It can be used in various situations from full-scale agriculture to landscaping/greening projects and kitchen gardens.
- The performance of our recycled products has been highly evaluated, and our product delivery record is improving.



Inside the facility



Panoramic view of the facility



Product "Minami-No-Hikari"

*This business is conducted by Miki Biotech Co., Ltd. (our wholly owned consolidated subsidiary)