Environment



Basic Approach

The INFRONEER Group, as an integrated infrastructure service company, strives to deliver optimal infrastructure services around the world, with the aim of achieving the sustainability of all stakeholders of the Company and the Earth.

The environment must not be sacrificed in the process of pursuing economic growth. Rather, environmental conservation and economic development should be able to be pursued at the same time and in a mutually beneficial way. Aiming to create such a society, we are endeavoring to achieve harmony with nature and provide rich natural environments and economic opportunities to the present and future generations alike. Accordingly, we have been engaging in initiatives from a long-term perspective by addressing issues related to climate change, circular economy, biodiversity, pollution prevention, and water security. In addition, we are promoting activities through the Group's own "Dividends for the Earth."

Environmental Management

The Group recognizes environmental challenges, such as climate change, as a key management issue. While viewing it as a major risk with a strong sense of threat, we also see it as an opportunity and implement concrete initiatives to solve issues and achieve sustainability in line with the INFRONEER Medium- to Long-term Vision.

In FY2023, the Sustainability Committee discussed matters such as the results and monitoring of the status of CO₂ emissions and the goal setting in the GX League, which are then reported to the Board of Directors. The relevant department (sustainability, CSR, environment) of each Group company reflects decisions made by the Committee in their respective policies and plans and promotes related activities.



Environmental laws and regulations compliance status

In FY2023, we reported zero cases of violations of environmental laws and regulations.

▶ For more details, visit our website at: https://www.infroneer.com/jp/sustainability/ESG-data.html#environment (in Japanese)



Climate Change

Policies and philosophy regarding climate change

The Group recognizes climate change as one of the key management issues. We anticipate that the market for carbon neutral initiatives will expand more rapidly in the maintenance, management, repair, renewal and new construction infrastructure fields through public-private partnerships. We have set out a target value for CO₂ emissions at net zero by 2050. At the same time, we are strengthening our initiatives to tackle climate change while reducing and increasing the efficiency of energy usage. Also, we are preparing to apply for science-based targets (SBT) certification. The purpose of this application is to make more ambitious efforts to attain GHG emissions reduction targets set in conformity with the Paris Agreement's goal to be achieved by the end of this century, which is to keep the rise in global surface temperature to well below 2°C, preferably below 1.5°C, above pre-industrial levels.

Climate-related information disclosure based on the TCFD Framework

We identify risks and opportunities and implement appropriate measures to reduce our emissions and enhance resilience while achieving business growth at the same time.

> ▶ For more details on climate-related information disclosure based on the TCFD Framework, visit our website at: https://www.infroneer.com/ip/sustainability/environment/climate.html (in Japanese)

The Group recognizes climate change as one of the key management issues and a major risk. Our basic policies and issues related to climate change are regularly reviewed by the Sustainability Committee, and we have a structure in place to ensure proper oversight by the Board of Directors.

Targets and metrics

The Group has set the target of reducing GHG emissions by 40% by 2030 compared to FY2018 levels, aiming to achieve carbon neutrality by 2050. In FY2023, we promoted the introduction of "ecole*1," proactive utilization of renewable energy resources (including non-fossil fuel certificates), and other activities. As a result, we recorded around 2,740 kt-CO₂*2 (down 280 kt-CO₂ year on year). With respect to GHG emissions reduction targets, we attained a 29% reduction for Scopes 1 and 2 combined and a 47% reduction for Scope 3 (Categories 1 and 11) compared to FY2018 levels.

We will enhance the function to perform embodied carbon assessments*3 as a measure to reduce emissions across the entire value chain. In the infrastructure management business, we aim to build a one-stop service platform to reduce environmental footprint by creating a mechanism for exchanging and sharing information among suppliers and stakeholders in the value chain to increase the effectiveness of GHG emissions reduction.

As of September 2024, we received a third-party verification for our FY2023 GHG emissions calculation reports.

- *1 "ecole" is a low carbon (medium temperature) asphalt mixture using mechanical foamed technology *2 Total value for Scopes 1, 2, and 3 (Categories 1 and 11)
- *3 Embodied carbon assessments refer to total amount of CO₂ emissions from building structures and materials related to all stages of their life cycle.

Risk management and strategy

The identification of risks and opportunities is conducted chiefly by the responsible department at each business company, with the scope covering the entire Group. Identification results are brought together and analyzed in terms of financial impact by the Sustainability Promotion Office. Major risks and opportunities identified through this process are examined by the Sustainability Committee and then reported to the Board of Directors, which discusses measures to mitigate and control such risks as needed. Moreover, these results are shared with the Risk Management Committee at its quarterly meeting so that discussions on risks and their management will be conducted in the Group's overall risk management framework.

Premises for scenario analysis

Climate-related risks and opportunities can be grouped into two categories: risks related to the transition to a decarbonized society (policies and regulations) and risks related to the physical impacts of climate change (occurrence of natural disasters). We performed analyses for the two categories based on two scenarios, namely, the 1.5°C scenario (good progress) where good action is taken to mitigate climate change, and the 4°C scenario (slow progress) where little action is taken to combat climate change, maximizing physical risks. For each scenario, analyses were conducted on the premises defined in reference to future climate predictions published by various international institutions based on two timeframes of short- to medium-term (to 2030) and medium- to long-term (to 2050).

Results of the analyses have found that the Group's strategies, at present, will have no critical impacts with respect to both transition and physical risks.

Financial impact assessment related to risks and opportunities and countermeasures

The results of the financial impact assessment related to major risks and opportunities identified by the scenario analyses are summarized in the table below. For risks and opportunities associated with procurement, wind and flood disasters, and outsourcing cost increases, relevant information is posted on our website.

Financial Impact	Positive	Negative
Large (¥10 billion or more)	111	111
Medium (¥5 to ¥10 billion)	† †	11
Small (Less than ¥5 billion)	†	↓

- Risks and opportunities

		Risks/ Event	Financial impact assessment (operating profit)				
	Category		1.5°C scenario		4°C scenario		
				2030	2050	2030	2050
Fransiti	Policies and regulations	Risks	Increased tax burden related to CO_2 emissions from business operations as a result of carbon taxes being introduced and raised	44	111	+	+
	Markets	Opportunities	Increased demand for ZEB, ZEH, energy-saving renovation, and wooden construction; expanded market of innovative construction machinery (EV, etc.)	t	t	_	-
Phy	Chronic	Risks	Increased costs of recruiting and outsourcing as a result of accelerating labor shortages due to deterioration of work environments	+	++	+ +	111
Physical	Acute	Opportunities	Increased markets for building national resilience against disasters (including infrastructure maintenance, management, inspection, etc.)	† †	ttt	† †	ttt

	measures	
	I	
	III	
	II, III	
	III, IV	

Countermeasures

C			Financial impact assessment (operating profit) Risk reduction and recovery			
	Countermeasures	Details	1.5°C scenario		4°C scenario	
			2030	2050	2030	2050
ı	Reduce CO ₂ emissions from business operations	Reduce CO_2 emissions from production activities at each business company; especially, increase sales of low-carbon asphalt mixture, such as "ecole" (loss to be posted in 2030 due to the initial investment and depreciation), etc.	+	111	-	_
II	Implement decarbonization measures across the entire supply chain	Procure low-carbon materials in cooperation with suppliers; expand and diversify the supply chain to disperse risks; promote BCP, etc.	† †	111	† †	111
III	Respond to markets related to carbon neutrality and national resilience against disasters	Make proactive human and physical investments in decarbonization-related businesses; promote partially or fully unmanned work for more construction sites by utilizing ICT technologies, etc.	t	t	†	<u>†</u>
IV	Promote research related to decarbonized or low-carbon economy	Promote research and development to support decarbonized or low-carbon economy (cost of research and development investment to be turned into benefits from initiatives implemented)	+	4	_	_

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Circular Economy

Policies and philosophy

A circular economy refers to a socioeconomic system that aims to keep creating new value while using and recycling resources (including products and parts) on a continuous basis. In May 2024, the ISO 59000 series, a set of international standards for the circular economy, was made available, which will likely spur related discussions.

The INFRONEER Group operates the comprehensive infrastructure business that handles the entire infrastructure life cycle ranging from planning and proposal to construction, operation, maintenance, and management. Taking advantage of this business format, we reduce resource input and alleviate or avoid environmental impacts as an initiative to promote environmentally friendly design through the product life cycle.

For the operation, maintenance, and management of public facilities, we work to extend the service life of such structures by implementing well-planned inspection and maintenance programs.

Goals

The Group participated in the Circular Partners in December 2023 and became the first in the industry to join the Circular Economy Association and the Blue Plastics Salon in May 2024. Using opportunities given by these partnership platforms, we will engage in discussions with related parties and set goals for circular economy initiatives, aiming to announce them by the end of FY2024.

Recycling construction by-products and long-term resource recycling initiatives

MAEDA ROAD accepts debris, mainly asphalt clumps and concrete clumps, that are waste material from our construction sites, and processes them for recycling. Approximately 3 million tons of recycled aggregate are sold as a recycled roadbed construction material. At the same time, we are promoting initiatives to diminish the usage of natural resources and develop petroleum substitutes.

► For more details on circular economy, visit our website at: https://www.infroneer.com/jp/sustainability/environment/circular-economy.html (in Japanese)

Recycled roadbed material/recycled aggregate Crush and separate Crush and separate Recycling-oriented society formation system Receive Manufacture and sell Construction site

Biodiversity

Policies and philosophy

Aiming to help accomplish the goals of nature positivity—a concept of conducting efforts to help nature recover, such as halting and reversing biodiversity loss—the Group is committed to "building a society that is conscious of protecting our environment," including biodiversity conservation, which is defined as one of its material issues.

The Group is committed to conserving biodiversity and the sustainable use of resources in all business domains, including procurement, construction, operation, and renewal, to increase social and community safety, security, and sustainability. In addition, we are introducing green infrastructure that uses the functions of the natural environment to solve various issues in society.

Goals

The Group will endeavor to alleviate the impacts caused by its business on biodiversity and contribute to biodiversity conservation through businesses and environmental conservation social contribution activities. Also, we will continue to support activities conducive to biodiversity conservation and maintenance of ecosystem services through its original program, "Dividends for the Earth."

Initiatives

In November 2023, the Group participated in the 30by30 Alliance for Biodiversity, a platform hosted by Japan's Ministry of the Environment. Its goal is to contribute to achieving the global target of designating at least 30% of the Earth's land and sea area as protected areas by 2030. As part of the related activities, we are preparing to have the biotope created in MAEDA CORP.'s ICI Center certified as a Natural Symbiosis Site and registered for OECM*.

- * Short for Other Effective area-based Conservation Measures, OECM refers to land or areas where biodiversity is being conserved through management and protection efforts by companies and individuals, and which are not registered as national nature conservation areas.
 - For other projects related to biodiversity, visit our website at: https://www.infroneer.com/jp/sustainability/environment/living.html (in Japanese)
 For timeline of our past biodiversity actions, visit our website at: https://www.infroneer.com/jp/sustainability/environment/biodiversity.html (in Japanese)
 For details on the ICI Center, visit their website at: https://www.ici-center.jp/en/

Pollution Prevention

Policies and philosophy

The Group appropriately manages hazardous substances in all stages of its operations, such as civil engineering, building construction, road civil engineering, crushing stones, mixture manufacturing, and construction machinery manufacturing, in compliance with applicable laws and regulations. Major issues under management are related to monitoring the usage of PRTR-listed* chemical substances; proper processing of wastewater to be discharged; and prevention of soil contamination and alleviating and avoiding negative impacts in case of contamination. Recognizing that inappropriate management poses reputational risks that can result in a lost business opportunity, we will ensure appropriate management on a constant basis.

* Short for Pollutant Release and Transfer Register, PRTR refers to a system in which businesses handling chemical substances potentially hazardous to human health and ecosystems are required to estimate the amounts of such substances released into the environment (atmosphere, water, soil) and transferred in waste and report the data to the government. The national government then compiles the submitted data and estimates the release and transfer amounts and makes the results public.

Related Projects

Aquatic PFOS/PFOA adsorption treatment system

MAEDA CORP. has developed a water treatment system to remove PFOS and PFOA (organofluorine compounds) from wastewater and has been engaging in treatment activities. The system, composed of two types of units, each for the clarifier and ion-exchange resin, is suitable for transportation on a general-purpose vehicle. The clarifier unit removes free-floating substances and the ion-exchange resin unit removes PFOS and PFOA.

Water treatment system installed





► For details on pollution prevention and other projects, visit our website at: https://www.infroneer.com/jp/sustainability/environment/pollution.html (in Japanese)

Water Security

Policies and philosophy

The Group undertakes water supply and sewerage system projects as part of its infrastructure business and recognizes the conservation of water resources as an important environmental issue. As such, we are committed to securing safe water resources—a factor in ensuring local residents' sense of security—by increasing water usage efficiency, recycling water through proper treatment, and reducing water usage. In July 2024, we formulated the INFRONEER Group Sustainability Procurement Policy and the INFRONEER Group Sustainability Procurement Guidelines. We have requested cooperating companies and business partners to manage water resources appropriately and are working to build a collaborative structure.

Goals

In all its business operations, the Group will work to reduce water usage and promote appropriate management of water sources while managing the discharge (or release) of wastewater by presenting its characteristics as needed and conducting monitoring, control, and treatment. For this purpose, we will implement water consumption and intake reduction plans, collect and analyze data, and consider standardization based on the analysis findings.

Related Projects

Water loss prevention

MAEDA CORP. takes part in the Osaka City Industrial Water Supply Specified Management Business. The project involves conducting measures to prevent major water leaks (unwanted water loss), installing water leak sensors, and a monitored maintenance system that uses satellite image analysis technology. In FY2023, no major water leaks were recorded. In the Miura City Public Sewerage (for East Area Treatment District) Management Business, we set voluntary standards that are higher than the legal standards for managing the quality of water to be released into public waters.

The management values we set for major indicators are: 15 mg/l for COD*1 against the legal value of 25 mg/l; 10 mg/l I for SS*2 against a legal 40 mg/l; and 6.0-8.0 for pH against the legal range of 5.8-8.6. In FY2023, all our measurements satisfied the voluntary standards for each indicator.

- *1 Short for Chemical Oxygen Demand, COD is an indicator for water pollution levels used chiefly for lake and sea water.
- *2 Short for Suspended Solids, SS refers to insoluble particles less than 2 mm in diameter suspended in water.

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[►] For other projects related to water security, visit our website at: https://www.infroneer.com/jp/sustainability/environment/water.html (in Japanese)