

Environmental Report

Corporate activities are contingent upon a healthy global environment. Recognizing that preservation of the global environment is an important issue shared by all humankind, the JXTG Group has included environmental conservation as a standard in its Group Code of Conduct and as a priority field for CSR activities as part of its efforts to contribute to the development of a sustainable society through its business activities.

For data pertaining to the Environmental Report, please see the Data section of this report.

Priority Fields for CSR Activities

High Ethical Standards
Compliance
Safety and Environment
Human Rights
Human Resource Development
Health
Quality
Social Contribution

Environmental Management

Basic Approach

As part of its responsibilities as a corporate group involved in energy, resources, and materials, the JXTG Group maintains a proper understanding of the impact of its business activities on climate change risks and natural capital. In addition, environmental conservation has been included as a standard in the JXTG Group Code of Conduct, and the environment has been identified as a priority field for the Group's CSR activities.

Specifically, the JXTG Group has formulated the JXTG Group Environmental Policy and set relevant targets as part of our efforts to contribute to the development of a sustainable society.

JXTG Group Code of Conduct (excerpt)

3. Environmental conservation

- (1) We recognize that we are stewards of the environment and its limited resources. We strive to conserve biodiversity and natural capital, including, but not limited to, water, soil, and the atmosphere, and contribute to the development of a sustainable society.
- (2) We strive to promote renewable energy and energy conservation in order to contribute to the development of a low-carbon society.
- (3) We strive to contribute to the establishment of a circular economy by reducing, reusing and recycling, while using resources effectively and efficiently.
- (4) We strive to take actions to promote sustainable production and consumption for the benefit of society while taking the same actions throughout our value chain, including, but not limited to, resource development, procurement, production, distribution and sales.

Plan and Targets

The JXTG Group has formulated the Medium-Term Environmental Management Plan (fiscal 2017–2019) and established environmental targets for fiscal 2030, aimed at contributing to the development of a low-carbon, recycling-oriented society. We are now moving ahead with relevant environmental activities under this plan and these targets.

We now plan to draw up a long-term vision for the Group along with the next Medium-Term Management Plan, set to begin in fiscal 2020, with the goal of actualizing our medium- to long-term strategy. This includes expanding disclosures considering the final report of the Task Force on Climate-related Financial Disclosures (TCFD) released in June 2017.

Environmental Targets in the JXTG Group's Medium-Term Environmental Management Plan (Fiscal 2017–2019) and for Fiscal 2030

- 1. Reduction in CO₂ emissions along the entire supply chain ♥ (as compared with FY2009)**
 Medium-term target (FY2019):
 Reduction of 2.72 million tons
 FY2030 target:
 Reduction of 4.08 million tons
- 2. Waste-to-landfill ratio ♥**
 Maintain zero emissions
 (waste-to-landfill ratio of less than 1%)

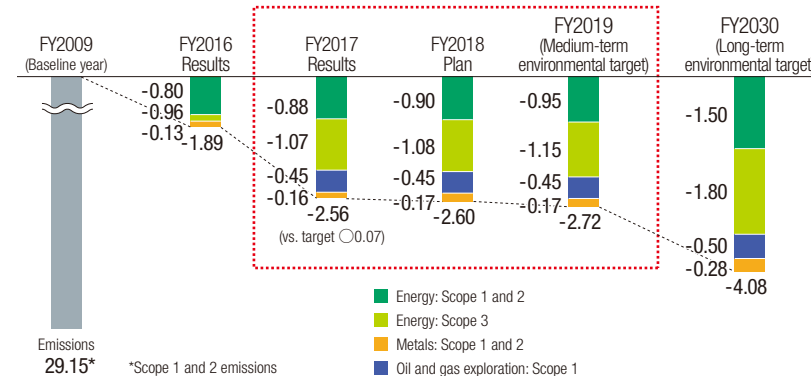
♥: Indicates the Group's top CSR priorities. Please see p. 9.

Major Initiatives for Achieving the Medium-Term Environmental Management Plan and Results in Fiscal 2017

1. Reduction in CO₂ emissions (compared to 2009) ♥	
(1) Reduction in CO ₂ emissions at Group production sites:	1.49 million tons
Energy conservation:	1.04 million tons
CO ₂ -EOR*	450 thousand tons
(2) Reduction in CO ₂ emissions other than at Group production sites:	1.07 million tons
2. Waste-to-landfill ratio ♥	
(1) Thorough separation of waste, and reuse and recycling:	0.6%

Reduction in CO₂ Emissions

Amount of reduction in CO₂ emissions (Million tons)



*CO₂-EOR (Enhanced Oil Recovery): Technology for the improved recovery of oil through the injection of CO₂ gas. This technology simultaneously increases production of crude oil and reduces emissions of CO₂ into the atmosphere by transporting the CO₂, captured out of the processed flue gas from a coal-fired power plant, to an oil field, and injecting and storing the CO₂ into legacy fields.

Major initiatives for reducing CO₂ emissions ♥

- Modifications to xylene recovery equipment at the Chiba Refinery
- Concentrated investments in energy conservation at the Negishi Refinery
- CO₂ separation and capture, etc., with the CO₂-EOR project
- Increased sales of environmentally friendly products

Main initiatives for reducing waste-to-landfill ratio ♥

- Use of sludge, soot and dust as a raw material for concrete
- Recovery of valuable metals from waste catalysts

Structure

The JXTG Group Environment & Safety Committee is chaired by the officer (director) responsible for the department in charge of environment and safety at JXTG Holdings. This committee has been established under the JXTG Group CSR Council, which is chaired by the president of JXTG Holdings.

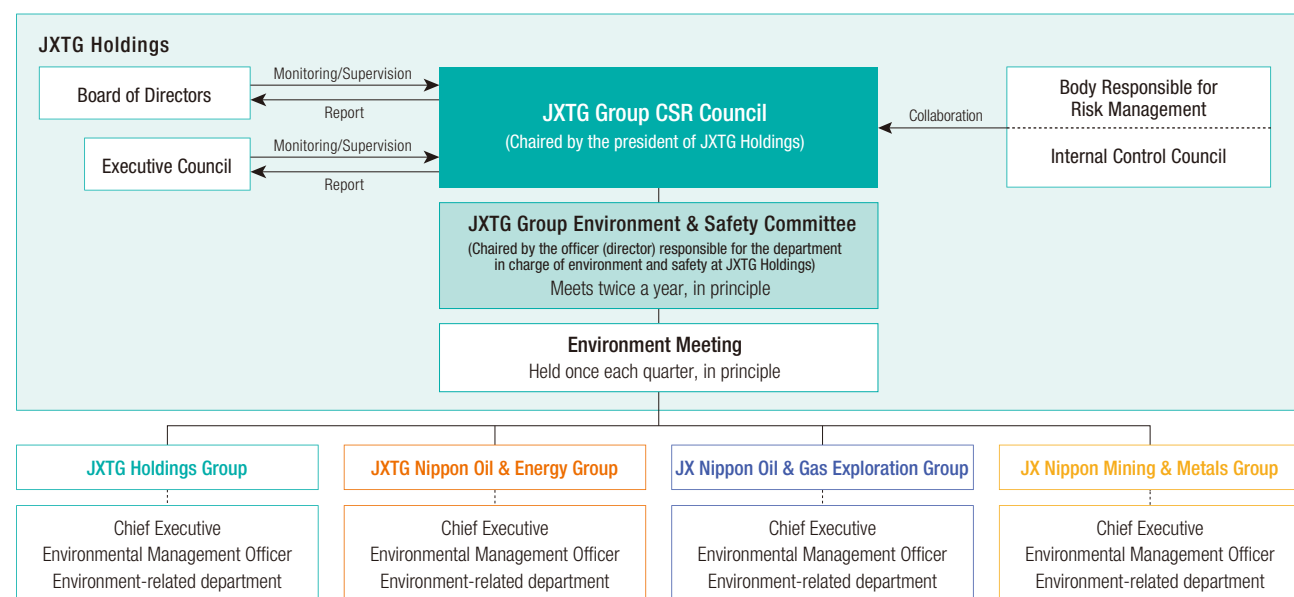
The Environment & Safety Committee deliberates environment-related matters and confirms operation of the Environmental Management System (EMS) across the entire Group, and results are reported to the Board of Directors

through the CSR Council.

In addition, chief executives and environmental management officers have been appointed for EMS operation, and environment-related departments have been established at each Group company.

The Group has also obtained certification for ISO 14001, a set of international standards for environmental management, at many of its business sites where the EMS has been adopted (72 business sites in total). Fifty-six of these business sites have obtained certification, representing a certification rate of 78%.

JXTG Group Environmental Management Promotion Structure



Note: See CSR Management on pp. 8-14 for an overview of the Group's CSR implementation structure.

♥: Indicates the Group's top CSR priorities. Please see p. 9.

Major Initiatives

Environmental Education

With the aim of raising environmental awareness even further, the Group holds e-learning sessions for employees and provides regular rank-based education, training and drills, for the purpose of instilling awareness of the Group's basic environmental policies and business plans, as well as various laws and regulations.

Environmental Audits

All business sites that have obtained ISO 14001 certification

are subject to internal audits once a year. They also undergo periodic reviews by a third-party certification body to maintain their certification.

Environmental Accidents

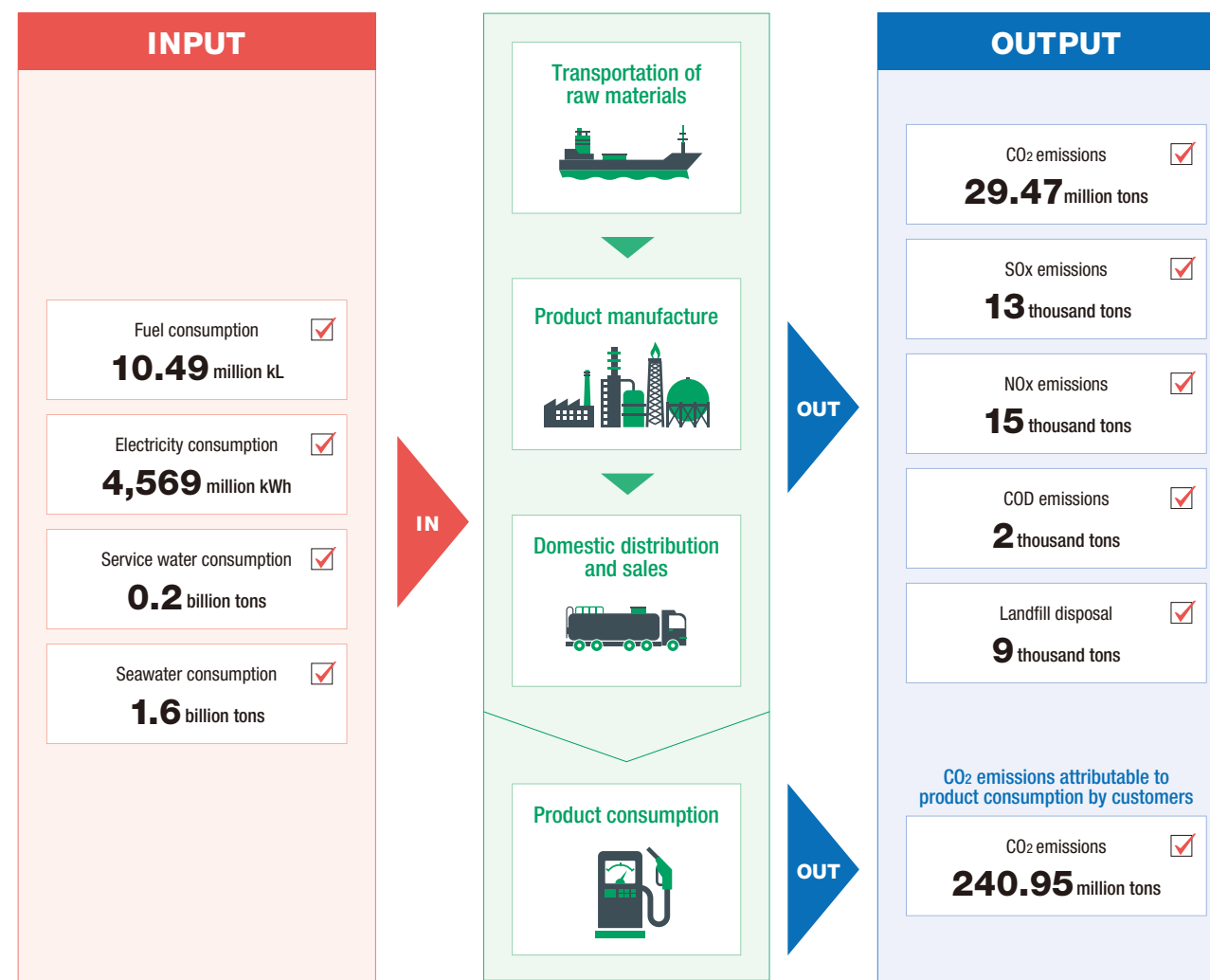
In fiscal 2017, one environmental accident occurred. Necessary measures were taken to address this accident and prevent a recurrence.

Date	Place	Description
April 2017	Hitachi Works, JX Nippon Mining & Metals	Alkaline wastewater leaked into a river from a crack in a concrete thickener

Overview of the JXTG Group's Environmental Impact

Input-Output of the JXTG Group (results from fiscal 2017)

(The graphic illustrates both the CO₂ emissions associated with business activities and the CO₂ emissions attributable to the consumption of products)



Notes: CO₂ emissions calculated based on the Act on Promotion of Global Warming Countermeasures. CO₂ emissions from the consumption of electricity calculated using *Emission Factors by Business Operator*.

CO₂ emissions attributable to consumption by customers calculated using the latest oil product sales volumes (for JXTG Nippon Oil & Energy) in Japan based on the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain. Target oil products were revised in fiscal 2017.