

Initiatives for Biodiversity

Basic Approach

The operations of the JXTG Group may impact the environment surrounding our operation and production sites. Given the nature of our business, we consider biodiversity conservation to be an important effort, as stated in the JXTG Group Code of Conduct.

We carry out initiatives with attention to biodiversity in all aspects of our business activities. These initiatives include the implementation of environmental impact studies when establishing new operation and production sites in order to obtain an accurate understanding of local ecosystems, including plants, birds and other animals, and marine life. For information on our environmental management structure, see pp. 28–29.

Major Initiatives in Japan

JXTG Nippon Oil & Energy, which has many production sites, has established the JXTG Nippon Oil & Energy Group Guidelines on Biodiversity. In addition, we systematically carry out activities for the preservation of biodiversity, conducting ecosystem studies at our major business sites in Japan, many of which are surrounded by large green belts. At our other business sites as well, we carry out environmental conservation activities suited to the surrounding environments.

JXTG Nippon Oil & Energy Group Guidelines on Biodiversity

Basic Stance

We will carry out initiatives with attention to biodiversity in every aspect of our business activities, under the recognition that our business activities are deeply related to the Earth's biodiversity.

Action Policy

1. We will ascertain and analyze the impacts of our business activities on biodiversity and strive to make improvements.
2. We will promote activities that contribute to biodiversity preservation, such as nature protection and environmental education.
3. We will disclose and share information on our efforts to preserve biodiversity.

We also carry out activities such as regular environmental training for employees and community contribution activities related to environmental conservation.

Involvement in Biodiversity Initiatives

JXTG Nippon Oil & Energy has been a member of the Japan Business Initiative for Biodiversity (JBIB), a leading business initiative for biodiversity in Japan, since 2013.



Initiatives at the Chita Plant

The Chita Plant is a member of the Ecological Network Formation and Leadership Development Program for Corporate Green Spaces in the Coastal Area of Chita Peninsula and the Project Linking Life with One Another. These initiatives, which involve partnerships among Aichi Prefecture, Chita City, NPOs, students and companies located in the coastal area, utilize corporate green belts and other areas to provide safe and secure habitats for local flora and fauna.

The plant is working to mainstream biodiversity through measures such as ecosystem surveys (monitoring) of its biotope, conducted with students in the local community. In fiscal 2017, ecosystem surveys of the biotope were conducted on two occasions.

As a result of these activities, the Chita Plant was granted certification by the Association for Business Innovation in Harmony with Nature and Community (ABINC) in 2015 after undergoing a third-party screening developed by the Japan Business Initiative for Biodiversity (JBIB). This certification was renewed in 2018.





Survey of natural environment in the greenbelt



A butterfly skimmer in the biotope



Monitoring by an expert

Initiatives at the Negishi Refinery

The Negishi Refinery is one of Japan's largest oil refineries, with an area of 2.2 million square meters and a circumference of around 12 kilometers. The area in which it is located has a network of ecosystems with a diverse array of organisms inhabiting an expansive green belt that includes Sankei-en and Negishi Forest Park. Under the concept of creating a satoyama, the Negishi Refinery carries out activities for the conservation of biodiversity utilizing the green belt (approximately 60,000 square meters), a hub for the area's ecosystem network, at the center of the premises.

Ecosystem surveys were begun in fiscal 2013, and initiatives such as forest thinning, laying of trails (wooden paths) and installation of bird-watching sheds were begun in fiscal 2016 and are slated to continue until fiscal 2019.

In fiscal 2017, the refinery installed a biofan to ensure the circulation of pond water and maintain water quality.

In fiscal 2018, we plan to hold interactive events and weed grassy areas using goats.



Organized tour of the refinery



Biofan installed to keep pond water clean

Forest Stewardship and Afforestation Activities

JXTG Group companies are involved in forest stewardship activities that contribute to the preservation of biodiversity.

JXTG Nippon Oil & Energy implements forest stewardship activities called ENEOS no Mori at eight locations across Japan in partnership with local governments and the National Land Afforestation Promotion Organization (NLAPO).

Since 1998, JX Nippon Oil & Gas Exploration has implemented a forest stewardship project called JX Nakajo Forest for the preservation of pine trees on and around the site of its Nakajo Field Office in Niigata Prefecture.

JX Nippon Mining & Metals is also working to maintain the natural environment by continually engaging in afforestation activities such as tree planting and thinning, mainly at the sites of its closed mines.



ENEOS no Mori forest conservation activity



JX Nakajo Forest afforestation activity



Tree planting in Nikko Ryuju Forest in Nanyo City, Yamagata Prefecture

Major Initiatives Overseas

Plans for Tree Planting and Biology Research at Caserones Copper Mine (Chile)

JX Nippon Mining & Metals is carrying out plans to plant 48,200 seedlings of 15 native flora species in an area spanning 143.51 hectares (1.43 square kilometers) to maintain biodiversity and protect plants that could be impacted by business activities at the Caserones Copper Mine. The areas being planted are those around Ramadilla on the mine site, and the off-site areas around Maitencillo and Amolanas. The work is expected to be completed in 2019. Among the types of flora being planted

are Amancay (*Balbisia peduncularis*), Carboncillo (*Cordia decandra*), and Retamo (*Bulnesia chilensis*).

In addition to these, monitoring of native plants such as Acerillo (*Buddleja suaveolens*), Flor del Minero (*Centaurea cachinalensis*), and Baylahuen (*Haplopappus baylahuen*) is being carried out to obtain information on their biological growth.

Research is also being carried out on the plant species Llaretta (*Azorella monantha*). Since Llaretta grow at altitudes between 3,000 and 3,900 meters, where the impact of the Caserones Copper Mine is greatest, these plants are of high importance as objects of study, which is aimed at learning such matters as their distribution in the Atacama region, how they propagate, and their phenology.



Biological diversity of Caserones

Measures for Ballast Water (Sea Water)

Oil tankers from Japan bound for oil-producing countries carry ballast water (sea water) as weight to maintain stability for unloaded voyages.

However, this ballast water contains microorganisms and plankton that are carried to the waters of oil producing countries, where, if released, they can disturb the balance of local ecosystems.

Since 2004, the JXTG Nippon Oil & Energy Group has replaced this ballast water while still at sea, and installed water treatment systems* for ballast water on its new vessels in an effort to avoid disturbing the coastal waters of oil-producing countries.

* Systems that keep the level of aquatic organisms in ballast water within certain standards prior to release.

Use of Environmental-Hormone-Free Ship Hull Paint

Tributyltin is a compound found in paint that was once commonly applied to ship hulls, however, it is now known that this compound contains environmental hormones.

We therefore use zinc-based paints for our ship hulls, despite their being somewhat less effective, as part of our efforts to protect and maintain ecosystems.