

Response to Biodiversity

Initiatives Undertaken by Our Production Bases in Japan

Beginning with the planning of its first refinery in Shunan City, Yamaguchi Prefecture, which it completed in 1957, Idemitsu has been committed to protecting the surrounding natural environment when constructing production facilities. At present, the four production bases we have built and continue to operate in Yamaguchi, Chiba, Hokkaido and Aichi prefectures manage green spaces that account for a total of 240 hectares, or the rough equivalent of 50 Tokyo Domes.

To better care for these large swaths of land, in 2011—the centennial of its founding—Idemitsu consulted with experts on how best to manage green spaces and solicited evaluations under the Social and Environmental Green Evaluation System (SEGES) developed by the Organization for Landscape and Urban Green Infrastructure. The Hokkaido Refinery received Excellent Stage 3 certification in fiscal 2018, and the Aichi Refinery received Superlative Stage certification, the highest one, in fiscal 2016. Based on the SEGES evaluations, we have been periodically thinning out the undergrowth as needed, and, when planting new saplings, we prioritize local species. General public access to our facilities is restricted because our production bases, namely oil refineries and petrochemical plants, handle hazardous materials. This has allowed the green spaces to function as sanctuaries for birds and other animals and even, in some spots, have become ideal habitats. Making the most of the opportunities the green spaces offer, the Hokkaido Refinery, Chiba Complex, and Aichi Refinery provide environmental learning spaces for neighboring elementary school students and other people.

Since December 1996, the Hokkaido Refinery has used the Corporate Forest Program started by the Forestry Agency to promote activities that contribute to society and the environment, with corporations participating in the upkeep of national forests. We named our watershed protection forest Idemitsu Appenai Watershed Forest and manage it appropriately. In addition, the Aichi Refinery is a key active member of the Inochi wo Tsunagu Project,* which aims to qualitatively improve biodiversity. Every time new facilities are built, Idemitsu conducts an environmental assessment. Any endangered species thus identified is then sheltered by, for example, establishing a protected area. Currently, at the Aichi Refinery we are working to conserve the endangered plant species *Salvia plebeia*, which was discovered growing on the site when new facility construction was undertaken. We have established a 70-square-meter protected area around the *Salvia plebeia*, which has been designated a near threatened species by the Ministry of the Environment.

* Inochi wo Tsunagu Project: An organization mainly comprising Aichi municipalities, companies, university students, and experts that aims to increase greenery and create easily habitable environments for wildlife



Salvia plebeia

Initiatives for Overseas Transport

(1) Ballast water measures

Our ocean-going tankers have undertaken various activities in accordance with the Ballast Water Management Convention, which came into effect on September 8, 2017, and the guidelines of the International Maritime Organization to prevent the

ecosystem destruction induced by foreign species. The convention mandates the installation of ballast treatment systems within a certain timeframe. In line with this rule, vessels managed by Idemitsu Tanker are steadily being installed with said systems. As of August 31, 2018, we finished installing electrolytic or filter/disinfectant treatment systems on APOLLO DREAM, ASTOMOS EARTH, and ASTOMOS VENUS. To prevent the disturbance of local ecosystems at ports of call, we use ballast water treatment systems to eliminate the harmful aquatic life and pathogens in ballast water. Or, during transit our ocean-going tankers replace the seawater they take in as ballast when leaving port with water from the open ocean, which has little impact on local ecosystems.

(2) Oil spill prevention measures

During transport by oceangoing tankers, we make various efforts to maintain a record of zero oil spillage. In the area of equipment, each of our very large crude carriers (VLCCs) in operation is double-hulled, thereby reducing the risk of oil spills. In terms of personnel, we provide regular training and education, including on-board emergency response drills and safety and environmental education, for all crew members.

There were zero marine oil spills in 2017.

[APOLLO DREAM](#)

Initiatives in Oilfield Development

To protect marine ecosystems, effluent water containing oil generated during test drilling and development is treated using a separator. The oil is transported to land-based facilities for processing and the water is returned to the sea after being processed to meet effluent water standards. In addition, we always consult an expert to conduct an environmental impact assessment prior to test drilling and production to ensure that the impact is at an acceptable level. In the eventuality of a marine oil spillage, we deploy an oil containment boom* to restrict its spread and recover the spilled oil in accordance with our Oil Pollution Contingency Plan.

There were zero marine oil spills in 2017.

* Oil containment boom: A floating barrier temporarily placed in a body of water for the purpose of containing or removing an oil spill from refineries, oil depots and other oil storage facilities as well as from marine oilfield facilities, tankers, tanker berthing facilities, and other facilities. Always deployed when unloading crude oil from a tanker to a ground facility.

Initiatives in Coal Mining

Idemitsu Australia Resources (IAR), which is based in Brisbane, Australia, is working to contribute to sustainable growth by solving various problems from a long-term perspective through management's commitment to the following policies.

< Idemitsu Australia Resources, Management Policies >

- Environmental Management Policy
- Energy Management Policy
- Cultural Asset Policy
- Stakeholder Engagement Policy

Specifically, based on an agreement with the state government, IAR work with the local aboriginal population to preserve cultural heritage prior to commencing extraction operations at mines. In addition, we filled back in extracted areas once operations are done to return it to its original condition and have planted over 340,000 specimens endemic to the area. In addition, to maintain biodiversity and protect wildlife, IAR has to date acquired around 11,000 ha of land surrounding its mines.