

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. 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 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, we provide environmental learning spaces for neighboring elementary school students and other people.



Salvia plebeia

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.

Initiatives for Overseas Transport

(1) Ballast water measures

Our ocean-going tankers have undertaken various activities in accordance with the guidelines of the International Maritime Organization to prevent the ecosystem destruction induced by foreign species. For instance, during transit our oceangoing 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. This prevents the disturbance of local ecosystems at ports of call. And, in fiscal 2010, Idemitsu began reviewing options regarding the onboard installation of equipment for removing organisms from ballast water. Within a set time period dating from September 8, 2017, ship operators are required by international convention to install equipment to process ballast water in ships capable of holding over 5,000 cubic meters of ballast water. This requirement

was taken into consideration when we were building the [APOLLO DREAM](#), which was completed in November 2014 and is equipped with electrolytic ballast water processing equipment. The equipment uses electrolysis to generate a disinfectant solution that eliminates microorganisms in the ballast water. A neutralizing agent is added to reduce the concentration of disinfectant solution before the ballast water is expelled.

[APOLLO DREAM](#)

(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 2016.

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 the eventuality of a marine oil spillage, we deploy an oil containment boom*1 to restrict its spread and recover the spilled oil in accordance with our Oil Pollution Contingency Plan.

There were zero marine oil spills in 2016.

*1 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 one of the coal business's bases, is working to preserve biodiversity through its commitment to the following management-level policies.

< Idemitsu Australia Resources, Management Policies >

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

Under the Environmental Management Policy, biodiversity preservation is treated as a legal obligation. With the aim of preserving biodiversity, IAR provides new soil, replacing topsoil and plants removed during excavation to ensure the rehabilitation of sites affected by mining operations.

In its efforts to reinstate local flora, IAR has planted over 200,000 specimens endemic to the area.

Also, following discussions with the local government regarding the need to maintain biodiversity, IAR acquired around 11,000 ha of land over the two-year period between 2015 and 2016 and is protecting the animals and plants that the site provides habitat to.