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## Ocean power plan mooted for island

The Yomiuri Shimbun

The government is considering installing an ocean thermal energy conversion (OTEC) system around Okinotorishima island, the country's southernmost uninhabited island, government sources said Wednesday.

Japan is at odds with China over the establishment of exclusive economic zones (EEZ) around the atoll--which is about 11 kilometers in circumference--under the U.N. Convention of the Law of Sea.

On Tuesday, the National Fisheries University, an independent administrative agency, and Saga University will launch a joint research project in the area, which is about 1,740 kilometers south-southwest of metropolitan Tokyo in the Pacific Ocean, to gather data about water temperatures and seabed tomography, according to the sources.

If the findings of the research confirm the feasibility of an OTEC system around Okinotorishima island, the government will go ahead with its OTEC plan for the territory by fiscal 2006, beginning with the selection of a spot where an ocean temperature gradient power generation system will be set up, the sources said.

The temperature gradient system uses warm seawater from the surface to vaporize liquid ammonia into steam for driving the power-generating turbines. The steam is then cooled with low-temperature water pumped from the sea depths, which returns the ammonia to liquid form for use again in the system.

Technically, the infrastructure plan is designed to make economic activities on the island sustainable by providing electric power supplies. Diplomatically, the government aims to enhance its dismissal of China's assertion that the territory is little more than a pile of rocks.

The joint team, involving about 20 people, will collect data about temperatures in different layers of water as deep as 1,000 meters, the quality of water, sea floor topography and currents. A report will be compiled by March, the source said.

The difference in temperatures between surface and deep water at Okinotorishima is said to be at about 20 C throughout the year, an optimal condition for ocean temperature gradient power generation.

Electricity from the proposed system is expected to be supplied to the atoll's marine observation installation and lodgings, as well as ice-making and other fisheries-

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related facilities. The overall cost to construct the OTEC system is estimated at tens of billions of yen, the sources said.

Kyushu Electric Power Co. successfully carried out an OTEC experiment on Tokunoshima island in Kagoshima Prefecture in 1982. India recently completed an experimental OTEC plant in collaboration with Saga University.

The ocean power generation plan was proposed by Tokyo Gov. Shintaro Ishihara in January last year when he met Prime Minister Junichiro Koizumi. Okinotorishima island is part of the village of Ogasawara, the southernmost administrative zone of Tokyo. Ishihara's proposal followed an increase in the number of Chinese marine research vessels appearing in waters around the island.

The central government subsequently earmarked about 200 million yen in its fiscal 2005 budget for a preliminary research project, which began in August, to check possible damage to coral reefs on the atoll if an OTEC system was built.

The U.N. convention grants EEZ of up to 200 nautical miles (370 kilometers) from the coast, in which the country concerned has the rights to explore natural resources. The international law also stipulates, "Rocks which cannot sustain human habitation or economic life of their own shall have no EEZ or continental shelf."

The government believes the presence of Okinotorishima island will gain higher international recognition once the island's economic activities become sustainable, the sources said.

The central government brought the atoll under its jurisdiction in 1999, erecting a seawall and placing wave-dissipating concrete blocks to protect the island from wind and wave erosion.

The atoll, which is about 4.5 kilometers from east to west and about 1.7 kilometers from north to south, are home to Higashikojima and Kitakojima, the islets that remain above water at high tide.

(Jan. 5, 2006)

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