

S3. Current State and Future Prospects of Use and Utilization of Deep Ocean Water in South Korea

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1. Introduction

South Korea is surrounded by water on three sides and deep ocean water has been developed centering on the east coast, which is known to be an uncontaminated area of the sea. Since 2000, the government has pursued a multi-purpose deep ocean water development project. In terms of deep ocean water development, the eastern coast in Gangwon-do Province has relatively favorable development conditions in terms of water intake pipe installation costs compared to other areas except for Ulleungdo because the water-intake distance is relatively short. As for the characteristics of the coasts on three-sides, the average depth of the western sea is about 44 m and that of the southern sea is about 101 m while the maximum depth of the East Sea is about 4000 m. Therefore, many places in the eastern coast have been designated as deep ocean water in-take zones. Accordingly, deep ocean water intake facilities are concentrated on the waters in the East Sea. To continuously and comprehensively develop and commercialize deep ocean water, which is a marine resource, the government has enacted the "Development and Management of Deep Sea Water Act." After the legislation (August 3, 2007), this act was put into force in the following year (February 4, 2008), and various elements were found accordingly.

2. Current state of use and utilization of deep ocean water in South Korea

In South Korea, seven deep ocean water intake facilities are operated currently and the total amount of deep ocean water intake is about 46,300 tons/day. The deep ocean water is mainly used at fountains (treated water). Among them, about 35,000 tons/day is used for fisheries. In particular, the deep ocean water is mainly used for fish preserves because large quantities of marine products are imported from Russia and North Korea through these ports. In addition, deep ocean water is also utilized for trucks carrying live things (snow crabs, red snow crabs, scallops). Kyungdong University located in the area

newly established the Department of Deep Ocean Water and the Deep Ocean Water Research Institute in 2005 for the first time in Korea and abroad to strive to cultivate men of talent in relation to deep ocean water. In addition, a deep ocean water related marine resource center and a specialized complex dedicated to ocean water are being formed.

3. Future prospects for deep ocean water

The the range of use of deep ocean water related treated water in food has been greatly expanded and improved and the related systems have been also improved such as extending the shelf life of drinking deep ocean water.

In addition, for concrete implementation of the deep ocean water industry promotion plan, the government has established and is promoting a deep ocean water convergence industrial cluster formation plan for nine years (2015 ~ 2024) in three stages.

First, beginning with the deep ocean water industry support center, of which the construction will be commended this year in Goseong-gun, diverse plans are being reviewed such as special zone designation for a plan to form a comprehensive formation plan for a deep ocean water fishery complex, a deep ocean water agricultural production complex, a health care complex, and a food town.

In order for South Korean deep ocean water development to lead to successful commercialization, base studies and industrialization should be promoted in parallel and the construction of networks through the formation of a bond of sympathy among industry, academy, research, government, and residents is important. If the deep ocean water industry is settled successfully as a leading industry in the region through the foregoing, it will provide big economic ripple effects on local employment creation and residents' life.