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JAPAN vs. CO₂

Increasing CO₂ concentration in the atmosphere is a big issue for Global Warming.

Japan's approach in CO₂ emission reduction is based on the following three technologies:

energy conservation, new energy technology development and atomic power generation plant.

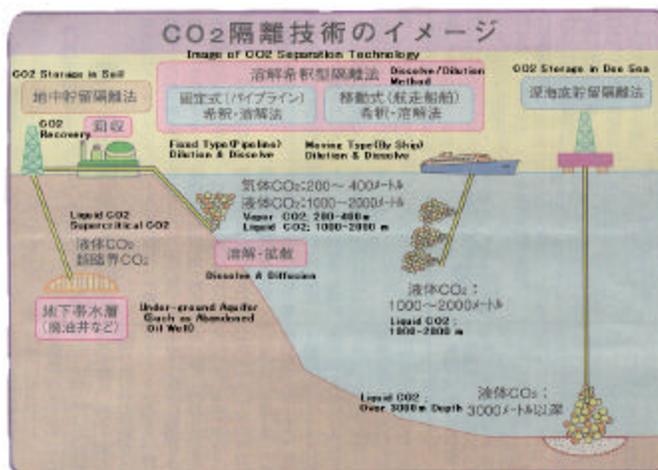
It is a very difficult task, however, to satisfy the 1997 COP3 (Kyoto Protocol) by using conventional technology. CO₂ recovery and CO₂ sequestration, in soil and/or ocean, are expected to be the countermeasure for the issue.

This brief report presents the CO₂ sequestration technology in Japan. Japan has realized that it will be very difficult to meet the COP3 requirements by the year 2012. The CO₂ emission in 1999 was estimated to be 1235 million tons, that is 4% or 9.8% increase compared with the last year and 1990 respectively. In addition, to make things worst, the atomic power generation plant construction in Japan is not favored because of the 1999 accident at Tsukuba.

Presently, Japan is eagerly developing the CO₂ fixation technology, by sequestration, in the ocean and soil. See Figure on "Image of CO₂ Separation Technology" below. CO₂ Storage in soil could use the existing oil wells and/or its technology to drill new ones however, the storage capacity is very small. Testing for this technology has just started

at Niigata. The Dissolving/Dilution method (i.e.: dumping CO₂ in ocean at 1000-2000 meter depth) could create many problems for the ocean bio-system and it could also be possible that CO₂, in time, could be emitted to the atmosphere.

Another method is to produce CO₂ hydrates and store them in deep sea at a depth of 3000 plus meters. However, this process has the same problem as the Dissolving/Dilution



Tip to the reader:

Click the Japan RITE (Research Institute of Innovative Technology for Earth) web site for more information: <http://www.rite.or.jp/English/E-home-frame.html>

Mechanical & Environmental Sciences