

23 November 2007

ENGLISH ONLY

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

Twenty-seventh session

Bali, 3–11 December 2007

Item 9 (c) of the provisional agenda

Methodological issues under the Kyoto Protocol

**Carbon dioxide capture and storage in geological formations as
clean development mechanism project activities**

Consideration of carbon dioxide capture and storage as clean development mechanism project activities

Submissions from Parties

1. In addition to the two submissions contained in document FCCC/SBSTA/2007/MISC.18 and the three submissions contained in document FCCC/SBSTA/2007/MISC.18/Add.1, one further submission has been received.
2. In accordance with the procedure for miscellaneous documents, this submission is attached and reproduced* in the language in which it was received and without formal editing.

* This submission has been electronically imported in order to make it available on electronic systems, including the World Wide Web. The secretariat has made every effort to ensure the correct reproduction of the text as submitted.

SUBMISSION FROM KOREA

**Korea's position on special issues
regarding CCS projects as part of CDM**

1. Carbon dioxide capture and storage (CCS) technology has the potential to be widely used in various places to reduce greenhouse gases, and it is viewed as one of the most important countermeasures against global climate change. The technology is very effective in reducing greenhouse gases from coal power generation.
2. Korea acknowledges that the inclusion of CCS as a Clean Development Mechanism (CDM) project activity will promote the development and application of CCS technology.
3. However, there is not enough data on CCS technology to quantitatively evaluate its risks and effectiveness. Therefore, efforts should be made to further develop different forms of CCS technology and to strengthen international cooperation so as to accumulate more knowledge.
4. If CCS is included as a CDM project activity, it is necessary to establish its "additionality," a tight regulation system, and methods to secure environmental safety. Criteria should be stricter than those for existing CDM projects. To objectively verify the safety of CCS technology, an independent organization needs to be established.

Determination of long-term seepage risk level

The criteria for prevention of seepage of CO₂ from storage in CDM project sites should be stricter than those for the reduction of domestic greenhouse gases. (The latter will be decided at the United Nations Framework Convention on Climate Change.)

Some criteria can be quoted from published Intergovernmental Panel on Climate Change (IPCC) reports. However, it should be taken into account that the IPCC based those criteria on the results of a certain storage-site-specific inspection, which may not be applicable to other sites.

Considering the greater risks of CCS, stricter criteria should be applied which take into account the impact of CO₂ leakage on the environment and the atmosphere. For the establishment of such criteria, Korea suggests that an expert panel be created to convene in-depth discussions on the issue.

Leakage levels, or permanence criteria, are determined by monitoring technologies that can precisely measure the amount of leakage. A prior comprehensive review of monitoring technologies that can perform quantitative measurement of the underground leakage of widely-scattered, low-density carbon dioxide is needed. To this end, there is a need for sufficient research on real leakage monitoring.

CDM Project Boundaries

If multiple projects share one storage site, a business plan must be submitted that has gained prior consent from the project developers or operators. For joint projects involving many countries, the participating countries must reach an understanding in advance.

Long-Term Monitoring Liability and Liability for Repairs

Liability for the repair of any leakage that occurs after the completion of the project basically falls on the project developer or operator. In the event that the long-term permanence of the storage site is undermined, it is more realistic in the long run for all countries involved in the project to shoulder joint responsibility for repairs.

Thus, the costs to be shouldered by the project developers or operators for long-term monitoring and repair of leakage after completion of the project should be decided through consultations among countries participating in the CCS project.

Nevertheless, credit accrued from the CDM project can be saved in the form of insurance or bonds to be used at a later date.

Furthermore, we can consider establishing an independent monitoring agency under the CDM Executive Board in order to guarantee a fundamental, transparent, stable and sustainable system to clarify where to attribute the liability for long-term monitoring, and also consider setting up a monitoring system to manage and supervise each and every CDM project.

Long-Term Liability Regarding Storage Site

We shall not overlook the risks that CO₂ leakage can pose to the environment. Thus, the scope of long-term liability should encompass, as much as possible, the various negative effects of CO₂ leakage.

However, as it will be very costly to rectify every potential negative effect of the project, and the feasibility of doing so is uncertain, it will be difficult to obligate the parties to take on responsibility for repairs. Thus, there is a need to discuss in advance where the liability lies and the scope of liability that can be materialized.

Modalities (accounting options) for calculating long-term seepage from storage sites

Seepage from reservoirs or project boundaries should be determined through the use of monitoring equipment, including 4D elastic wave prospecting. At the current stage, highly sophisticated quantitative calculation seems difficult. However, accuracy can be enhanced through many composite analyses. Also, it is desirable to increase the accuracy of the estimate by accumulating data and verifying technology.

Criteria and step-by-step procedures for the selection of an appropriate storage site

Considering internationally approved laws and related procedures, the following criteria (standards) can be referred to when selecting appropriate storage sites. Feasibility in the following aspects should be considered: geological stability and applicability; possibility of seepage; ecological dangers; possibility of reduction and restoration; economic and management considerations.

During the selection process, various discussions and agreements are needed with neighboring countries that could potentially be affected.

Methods of monitoring physical seepage and potential leakage from facilities related to storage sites

Taking into account the technological needs that will arise as a result of monitoring of CCS-CDM projects, as well as from possible leakage, existing and future geological and environmental technologies should be actively considered.

Standard monitoring methods should be specified by an independent panel of experts. In principle, the results of all specific storage site inspections should be reported regularly to the United Nations and disclosed to the countries concerned.

Other issues

1. The results of CCS technology projects should be shared among developed and developing countries. To this end, it is important to consider the capacities of developing countries.
2. We should actively devise ways to engage the participation of organizations such as APEC, the OECD and OPEC.
3. It is necessary to establish a neutral, objective body to review technological and institutional issues in all processes related to CCS-CDM projects.
