

Workshop Objectives

**Workshop on Confidence Building
in the long-term effectiveness of CCS**

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■ Background

■ Workshop objectives

■ Submission of CCS-CDM Methodology

- Submitted a methodology “The capture of the CO₂ from the Liquefied Natural Gas (LNG) complex and its geological storage in the aquifer located in Malaysia” (NM0168) in cooperation with JGC Corporation in January, 2006.
- Organized a workshop sponsored by METI which aimed at mutual understanding between CCS experts and CDM experts in Paris, France in April, 2006. There were 64 participants from various fields such as governments of investing countries, governments of host countries, the Methodology Panel, the UNFCCC secretariat, the IPCC, DOEs, oil majors, the IEA-GHG and the field of geology. There were 20 participating countries.
- Summarized the results of the workshop in Paris and distributed it at SBSTA CCS-CDM workshop held in Bonn in May, 2006.
- CDM EB26 released “Recommendation on CO₂ capture and storage as CDM projects activities based on the review of cases NM0167, NM0168 and SSC_038”.
- Process for adoption of guidance at COP/MOP4 in 2008 was decided at COP/MOP2 in 2006.

■ Summary of Submitted Methodology 2 - NM0168

“The capture of the CO₂ from the Liquefied Natural Gas (LNG) complex and its geological storage in the aquifer located in Malaysia”

- Addresses project activities that capture a mixture of waste acid gases from natural gas processing plants and liquefied natural gas (LNG) plants and stores this gas mixture, which consists primarily of CO₂, in underground aquifers or abandoned oil/gas reservoirs.
- In order to sell the gas, the CO₂-rich acid gas must be separated and removed. Therefore, separation (capture) facilities are not included in the project boundary, which comprises of compression, transport and the storage reservoir.
- Physical leakage (seepage) is estimated based on monitoring procedures, which involve the monitoring of the CO₂ stream into the reservoir and the potential seepage paths identified through seismic measurements.
- The baseline is the incineration of the acid gas rather than the storage underground. For site selection criteria, the methodology refers to numbers in the IPCC Special Report on CCS (SRCCS) . Permanence is accounted for by discounting CERs for seepage beyond the crediting period based on an ex-ante estimated seepage rate.

■ Summary of Submitted Methodology 1 - NM0167

“The White Tiger Oil Field Carbon Capture and Storage (CCS) project in Vietnam”

- Addresses project activities that capture CO₂ from a power plant and transport it by pipeline for injection into geological reservoirs, including the use in Enhanced Oil Recovery (EOR) operations.
- The project boundary includes capture, transport, injection, where relevant, EOR installations, and the storage reservoir, but excludes the power plant.
- Emissions leakage is assumed to be negligible (the question of whether the additional oil recovered might or might not affect global emissions is not discussed).
- Proposes that if physical leakage (seepage) is below 0.1% per annum, the emission reductions from the project activity are deemed permanent, and if seepage is higher, permanence is assumed to be insufficient in which case all CERs arising from the project activity are cancelled.
- Monitoring is done primarily by direct measurements at the injection point, and underground via 4D seismic analysis. The baseline is continued Enhanced Oil Recovery with seawater. Site selection is done according to criteria provided in an IEA GHG R&D Programme publication on CCS.

■ Further guidance relating to the clean development mechanism

21. *Invites* intergovernmental organizations and non-governmental organizations to provide to the secretariat, by 31 May 2007, information addressing the following issues:

- (a) Long-term physical leakage (seepage) levels of risks and uncertainty;
- (b) Project boundary issues (such as reservoirs in international waters, several projects using one reservoir) and projects involving more than one country (projects that cross national boundaries);
- (c) Long-term responsibility for monitoring the reservoir and any remediation measures that may be necessary after the end of the crediting period;
- (d) Long-term liability for storage sites;
- (e) Accounting options for any long-term seepage from reservoirs;
- (f) Criteria and steps for the selection of suitable storage sites with respect to the potential for release of greenhouse gases;
- (g) Potential leakage paths and site characteristics and monitoring methodologies for physical leakage (seepage) from the storage site and related infrastructure for example, transportation;
- (h) Operation of reservoirs (for example, well-sealing and abandonment procedures), dynamics of carbon dioxide distribution within the reservoir and remediation issues;
- (i) Any other relevant matters, including environmental impacts;

22. *Invites* Parties to make submissions to the secretariat, by 21 September 2007, on carbon dioxide capture and storage in geological formations as clean development mechanism project activities, addressing the issues identified in paragraph 21 above taking into consideration the submissions referred to in the same paragraph;

Source: FCCC/KP/CMP/2006/L.8

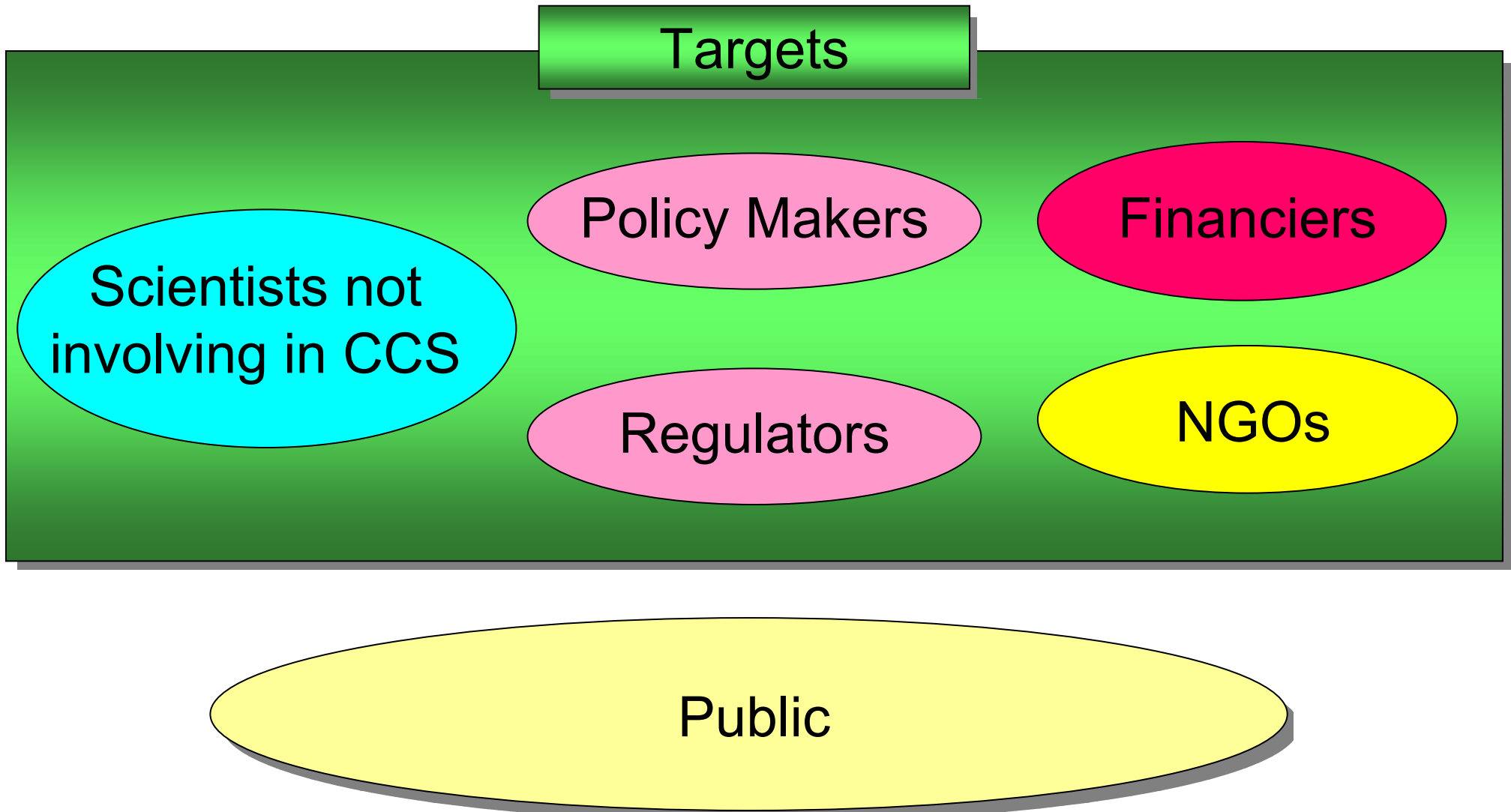
■ Workshop objectives

- Physical leakage (seepage) is the key issue for CCS project activities.
- To accelerate CCS project activities, confidence building will be needed.
- Confidence building is applicable to methodologies for CDM project activities.
- METI proposed development of international collaboration for building confidence in long-term effectiveness of CCS at the 30th IEA GHG Executive Committee on September 12-13 2006.
- IEA GHG Executive Committee had approved the proposal for development of international collaboration at the 30th meeting.
- Proposed a methodology development which is an application of Evidential Support Logic (ESL) at IEA GHG 2nd meeting of the Risk Assessment Network held at Lawrence Berkeley National Laboratory in October 2006.
- Discussion of the need for international collaboration and planning of its implementation at the 2nd meeting of the IEA GHG Risk Assessment Network.

■ Workshop objectives

- Discussion of the current status and the need for confidence building at a workshop on the 24th of October, 2006 in Tokyo.
- An international workshop on Confidence Building Methodology Development in Tokyo on the 24th and 25th of January, 2007 in cooperation with IEA GHG.
- Key issues relating to confidence building in CCS are discussed by the members and a set of generic recommendations are to be formulated.
- Recommendations regarding confidence building based on discussions and papers presented at the workshop will be published as an IEA report.

■ Targets of Confidence Building for the near term



■ Key Questions

■ Whose confidence do we need?

■ What kind of logics and arguments do we need?

■ Do we have enough evidence for those logics and arguments?

■ How do we communicate with stakeholders?

Contact Information

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