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**CO₂ SEQUESTRATION IN SUB-SEABED GEOLOGICAL FORMATIONS:
CO₂ SEQUESTRATION IN TRANSBOUNDARY SUB-SEABED GEOLOGICAL
FORMATIONS**

**Report of the Intersessional Correspondence Group on
Transboundary CO₂ Sequestration Issues**

SUMMARY

- Executive summary:*** This report contains a summary of responses received to the questionnaire distributed by Germany on 28 January 2009 addressing the legal issues associated with Transboundary CO₂ Sequestration Issues
- Action to be taken:*** Paragraph 32
- Related documents:*** LC 31/INF.2; LC 30/16, paragraphs 5.12 to 5.25; LP/CO2 1/8; and LC/SG-CO2 1/7, annex 3

Introduction

1 In February 2008, the Legal and Technical Working Group on Transboundary CO₂ Sequestration Issues analysed the relationship between transboundary movements of CO₂ streams for sequestration in sub-seabed geological formations and Article 6 of the London Protocol which prohibits the export of wastes or other matter to other countries for dumping or incineration at sea. The report of that meeting is registered under the symbol LP/CO2 1/8.

2 After a discussion of that report in October 2008, the governing bodies endorsed the recommendation to set up an Intersessional Correspondence Group on Transboundary CO₂ Sequestration Issues which should consider the following points:

- .1 the option of an amendment of Article 6 of the Protocol on the basis of the draft from the Intersessional Working Group (LP/CO2 1/8, annex 3), or an interpretative resolution, or a combination of the two;

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- .2 the underlying policy objectives taking into account those which were discussed intersessionally (1. allowing transboundary movement between Contracting Parties and also between Contracting Parties and Non-Contracting Parties; 2. the Annex 2 requirements of the Protocol should also be met by Non-Contracting Parties; 3. shared responsibility; 4. prior informed consent regarding the export), as well as the CO₂ Sequestration Guidelines and the “Risk Assessment and Management Framework for CO₂ Sequestration in Sub-seabed Geological Structures (LC/SG-CO2 1/7, annex 3);
- .3 the scope – should the transboundary movement also be allowed to Non-Contracting Parties?;
- .4 obtaining a clear understanding on what export means or should mean in this context;
- .5 migration – how should this be dealt with, does migration fall under the definition of export?; and
- .6 the relevance of the Basel Convention¹ and its relation to the London Protocol (does the Basel Convention apply?) – Contracting Parties that are members of the European Union would also have to take into account the CCS Directive being prepared (LC 30/16, paragraph 5.23).

3 The Intersessional Correspondence Group on Transboundary CO₂ Sequestration Issues was led by Germany. A legal questionnaire was circulated on 28 January 2009 to those delegations that had indicated their wish in October 2008 to participate in the work of the Correspondence Group: Australia, Brazil, Canada, China, Denmark, France, Germany, Japan, the Netherlands, Norway, Saudi Arabia, South Africa, Sweden, the United Kingdom, the United States, OECD/IEA, and Greenpeace International.

4 Eleven responses were received in total, outlining initial legal views. Nine came from Contracting Parties to the Protocol and the Convention (Australia, Canada, Denmark, Germany, Japan, the Netherlands, Norway, Sweden and the United Kingdom), one from a Contracting Party to the Convention (United States) and one from an NGO (Greenpeace International).

5 A brief, discursive overview is contained below which seeks to provide an initial tentative summary of the legal opinions received to aid Contracting Parties to conclude on the appropriateness of measures to be taken. The individual responses themselves are reproduced (in English only) in document LC 31/INF.2.

Provisions in case of a submission to amend the London Protocol (Article 21)

6 The key provisions of Article 21 of the Protocol have been summarized here in case an amendment to the Protocol would be considered: In accordance with Article 21 of the Protocol, any proposal for an amendment (in this case an amendment to Article 6) of the London Protocol would have to be submitted six months in advance, at the latest, for consideration by the next Meeting of Contracting Parties, i.e. 24 April 2009. Adoption of an amendment requires a two-thirds majority of the Contracting Parties present and voting. If adopted, the amendment

¹ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989.

would enter into force 60 days after two-thirds of the Contracting Parties² had deposited an instrument of acceptance of the amendment with IMO.

Scenarios identified in the questionnaire:

7 The questionnaire was based on three scenarios, as follows:

Scenario 1: Transport to another country prior to injection

- A. Receiving country is a Party to the London Protocol
- B. Receiving country is not a Party to the London Protocol

Scenario 2: Migration after injection: deliberate, transboundary geological formations

- A. Receiving country is a Party to the London Protocol
- B. Receiving country is not a Party to the London Protocol

Scenario 3: Migration: unintentional, by accident

Summary of responses received

8 This summary of responses should be read in conjunction with the 2008 report of the Legal and Technical Working Group on Transboundary CO₂ Sequestration Issues. Furthermore, this summary highlights particular issues of concern for review by the governing bodies and, if they deem it necessary, for referral to the Legal and Technical Working Group on Transboundary CO₂ Sequestration Issues in October 2009.

9 Although certain responses were nuanced it was not possible to capture all nuances in this summary and bring out all the points highlighted in the individual responses. Therefore, the individual responses listed in document LC 31/INF.2 should also be taken into account to understand the variety of views presented. The text which the 1st Meeting of the Legal and Technical Working Group on Transboundary CO₂ Sequestration developed for an amendment of Article 6 of the Protocol has been reproduced in the annex hereto as many respondents have referred in their replies to that text.

Scenario 1: Transport to another country prior to injection

A. Receiving country is a Party to the London Protocol

10 The majority of respondents indicated a preference to permit this activity in principle. Only one respondent is strongly against the transport because of the remaining uncertainties relating to the safety and security of long-term sub-seabed storage at this stage. By referring to paragraphs 3.6 to 3.9 of document LP/CO₂ 1/8 and the normal, linguistic understanding of the wording, the transport to another country prior to injection constitutes for nearly all Parties an export within the meaning of Article 6 of the London Protocol.

² To date, 3 April 2009, there are 37 Contracting Parties to the Protocol.

11 One respondent interprets Article 6 of the Protocol as intended primarily to prevent evasion of London Protocol jurisdiction. From this point of view the transport to another country, which is Party to the London Protocol, does not constitute an export within the meaning of Article 6.

12 The majority of the respondents prefer an amendment mostly because there is no or little room for interpretation of Article 6 of the London Protocol. The transportation of carbon dioxide to another country prior to injection is clearly within the prohibition stated in Article 6 of the Protocol. Proposals for slight changes to the possible amendment reproduced in the annex hereto have been presented by some respondents. One respondent is open to the consideration of both options because the London Protocol had not been designed with CO₂ sequestration in mind. Only one respondent indicated to prefer an interpretative resolution. The question was also raised whether carbon dioxide would be the only substance listed in Annex 1 to the Protocol for which an exception would be desired.

13 For most respondents the provision should be based on the three principles listed in this scenario (a – Information of the receiving country prior to transport; b – Prior informed consent of the receiving country; and c – Obligation of the exporting country to ensure compliance with the provisions of the Protocol). Some respondents suggested that these principles should be included in the proposed amendment shown in annex. One respondent proposed that the exporting State should primarily consider disposing the CO₂-stream in geological formations in its own territory.

14 The majority of respondents favoured the inclusion of specific procedural requirements, such as permitting, monitoring and reporting, the principle of shared responsibility or the concept of having an agreement between the exporting and the receiving State. However, differing views were expressed on the question which State should then be in charge with regard to these procedural requirements, i.e. the exporting or the receiving State.

15 For most respondents the Basel Convention does not apply to this case. Others would like to discuss this question in the framework of the Basel Convention itself.

16 On a miscellaneous point, one respondent made suggestions for changes to the proposed amendment shown in the annex hereto, in the interest of providing greater legal clarity.

Scenario 1: Transport to another country prior to injection

B. Receiving country is not a Party to the London Protocol

17 Most respondents believe that this activity should be permitted. Only one respondent is strongly against a permission being given due to the given uncertainties. For those respondents who are in favour of permitting this activity, it has to be guaranteed that equivalent standards to the Protocol apply in the receiving country (being a Non-Contracting Party). For the majority of the respondents this activity constitutes an export within the meaning of Article 6 of the Protocol. Only one respondent interprets Article 6 as intended primarily to prevent evasion of London Protocol jurisdiction and, as such, transports might be allowed where there is adequate assurance.

18 The majority of respondents prefers an amendment mostly because there is no or little room for interpretation of Article 6 of the Protocol. One respondent is open to the consideration of both options because the London Protocol had not been designed with CO₂ sequestration in mind. One respondent prefers clearly an interpretative resolution (see scenario 1 A above).

19 In general, the summary of replies to question 4 applies also in this case (see paragraphs 13 and 14 above). Some respondents see a need for additional provisions ensuring that the standards of the importing Non-Contracting Party are equivalent to those of the Parties to the Protocol. Some respondents argue for a responsibility of the exporting State.

20 The majority of respondents express the view that the Basel Convention does not apply in this scenario.

Scenario 2: Migration after injection: deliberate, transboundary geological formations

A. Receiving country is a Party to the London Protocol

21 Most respondents are in favour of permitting this activity in principle. One respondent observes that the word migration is confusing in this context, because it is not clear if migration is a natural process and, if so, how it can be regulated. Other respondents understand the migration case as a situation where a geological formation is shared by two or more States. It seems that this case has not yet been characterized sufficiently.

22 With respect to the question, if this scenario constitutes an export within the meaning of Article 6 of the Protocol, the respondents expressed divergent views. Some have the opinion that migration of CO₂ after injection is a natural process and should not be qualified as an export. The main legal argument against the applicability of Article 6 of the Protocol is that the export according to this article must be “for dumping or incineration at sea”. This is not the case for some respondents because the CO₂ migration occurs after the injection. Only one respondent expresses the view that this scenario constitutes an export in the meaning of Article 6 of the Protocol. Some respondents highlight the uncertainties concerning this case with regard to Article 6 of the Protocol and the need for further investigation. It is also mentioned that the desired outcome should be taken into account.

23 Those respondents which do not see migration in this scenario as export emphasize that, strictly speaking, neither an amendment nor an interpretative resolution is needed. However, some respondents argue that action should be taken to remove any doubt about the legality of the migration under this scenario. An interpretative resolution is seen as an option to make clear that migration in this case is not prohibited by Article 6 of the Protocol. Those who see migration in this case falling under the application of Article 6 noted the importance of a joint solution in respect of scenario 1 – irrespective whether an amendment or an interpretative resolution is needed.

24 Some respondents indicated that it would be desirable to develop requirements or guidance on transboundary migration separate from Article 6 of the Protocol.

25 Some respondents argue that all requirements mentioned in question 18 of the questionnaire, paragraphs e to h, should apply. Others are of the opinion that since two or more Contracting Parties are involved the current LP requirements are sufficient. There seems to be more or less consensus that there should be an agreement on co-operation prior to injection.

26 For most respondents the Basel Convention does not apply in this scenario.

Scenario 2: Migration after injection: deliberate, transboundary geological formations**B. Receiving country is not a Party to the London Protocol**

27 Provided that the receiving State concerned guarantees environmental standards equivalent to those applicable under the London Protocol, most respondents would permit this activity in principle. Most answers and subsequent questions with regard to this scenario are similar to those in scenario 2A and indicated that the receiving country should guarantee LP standards concerning principles and procedural requirements. Additionally, for some respondents prior information and consent by the receiving State should be required. According to some respondents the exporting Contracting Party should have the responsibility to ensure that the receiving State applies standards equivalent to those under the London Protocol and fulfils the procedural requirements.

Scenario 3: Migration: unintentional, by accident

28 For all respondents unintentional migration is not regarded as export within the meaning of Article 6 of the Protocol because a normal linguistic understanding of the term “export” suggests a deliberate action. Some doubts were however mentioned. Moreover it was recommended to consider this issue further albeit in a broader perspective, also taking into account other relevant international treaties.

29 With regard to the need for regulation under this scenario the opinions diverged. Some respondents indicate that there are still too many uncertainties. Others are of the view that the existing provisions of international law are sufficient. However, specific requirements might be necessary with regard to notification and the obligation to redress damage.

30 For the majority of the respondents the Basel Convention does not apply in this scenario.

31 One respondent draws attention in this context to Article 21 of the OSPAR Convention concerning Transboundary Pollution and also to Article 24 of the Proposal for a European Union Directive on the geological storage of carbon dioxide.

Action requested of the governing bodies

32 The governing bodies are invited to review this report, in conjunction with the individual replies given by the respondents as reflected in document LC 31/INF.2 and, in particular:

- .1 comment as they deem appropriate; and
- .2 consider what further steps to take, if any, before reaching a conclusion on this issue.

ANNEX

**POSSIBLE AMENDMENT OF ARTICLE 6 OF THE LONDON PROTOCOL
(Source: document LP/CO2 1/8, annex 3)****Export of wastes and other matter**

Add 1 before: Contracting Parties shall not allow the export of wastes or other matter to other countries for dumping or incineration at sea.

Add a new paragraph 2 as follows:

“2 Notwithstanding paragraph 1, transboundary movements including migration of carbon dioxide streams as referred to in Annex 1, paragraph 1.8, for disposal may occur, provided that:

- .1 the receiving State gives its prior informed consent;
- .2 disposal of carbon dioxide streams is in compliance with the requirements set by Annex 2; and
- .3 in the case of such transboundary movement from a Contracting Party to a non-Contracting Party, a bilateral, multilateral or regional agreement [or arrangement]³ on the transboundary movement of carbon dioxide streams has been entered into by the countries concerned. Such an agreement [or arrangement]³ shall not derogate from the protection and preservation of the marine environment as required by this Protocol and shall stipulate provisions that are equivalent to those contained in this Protocol on the protection and preservation of the marine environment. A Contracting Party entering into such an agreement [or arrangement]³ shall notify it to the Organization.

³ The wording “or arrangement” is taken from the Basel Convention. Some Contracting Parties were of the opinion that it should be retained in order to be as close as possible to the Basel Convention. Other Contracting Parties prefer the deletion of this phrase since it would make the requirement less stringent.