

UNITED
NATIONS

EP



**United Nations
Environment
Programme**



UNEP

Distr.
LIMITED

UNEP(DEPI)/RS.9/ Inf.9
3 October 2007

Original: ENGLISH

**Ninth Global Meeting of the Regional Seas
Conventions and Action Plans**

Jeddah, Kingdom of Saudi Arabia, 29-31 October 2007

**Storage of Carbon Dioxide Streams-OSPAR related documents
OSPAR Convention for the Protection of the Marine Environment
of the North-East Atlantic**

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**OSPAR CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT
OF THE NORTH-EAST ATLANTIC**

MEETING OF THE OSPAR COMMISSION

OSTEND: 25-29 JUNE 2007

**Amendments of Annex II and Annex III to the Convention in relation to the
Storage of Carbon Dioxide Streams in Geological Formations**

RECALLING the general obligations in Article 2 of the Convention for the Protection of the Marine Environment of the North-East Atlantic;

BEING SERIOUSLY CONCERNED by the implications for the marine environment of climate change and ocean acidification due to elevated concentrations of carbon dioxide in the atmosphere;

EMPHASISING the need to further develop renewable and low carbon forms of energy generation and use;

RECALLING that carbon dioxide capture and storage is not a mandatory obligation for the Contracting Parties to the Convention but an option which the individual Contracting Parties can choose to allow the use of;

RECOGNISING that carbon dioxide capture and storage is one of a portfolio of options to reduce levels of atmospheric carbon dioxide, and that it represents an important interim supplement to measures for the reduction or prevention of carbon dioxide emissions and should not be considered as a substitute for other means to reduce carbon dioxide emissions;

NOTING that, since the adoption of the Convention, developments in technology have made it possible to capture carbon dioxide from industrial and energy-related sources, transport it and inject it into sub-seabed geological formations for long-term isolation from the atmosphere and the sea;

NOTING ALSO that regulating such activity is within the scope of the Convention;

WELCOMING the work of the Intergovernmental Panel on Climate Change and in particular its Special Report on Carbon Dioxide Capture and Storage;

EMPHASIZING the need for the storage of carbon dioxide streams to be environmentally safe;

WELCOMING FURTHER the adoption of the amendment to include carbon dioxide streams from carbon dioxide capture processes for sequestration in sub-seabed geological formations in Annex I to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London Protocol);

RECOGNISING the work of the Intersessional Technical Working Group on Carbon Dioxide Sequestration of the Scientific Group established under the London Convention and its Protocol and its conclusions, as set out in its report LC/SG-CO2 1/7;

RECOGNISING ALSO the work of the Offshore Industry Committee, the Biodiversity Committee and the Intersessional Correspondence Group on the placement of carbon dioxide in sub-seabed geological formations;

DESIRING to regulate under this Convention the storage of captured carbon dioxide streams in sub-soil geological formations to ensure protection of the maritime area;

RECALLING Article 15 and Article 17 of the Convention relating to the amendment of annexes to the Convention;

CONFIRMING that these amendments are restricted to the storage of carbon dioxide streams in geological formations;

STRESSING that such amendments may not be interpreted as legitimising the disposal of any other waste or other matter for the purpose of their mere disposal;

RECOGNISING that a regulatory framework and guidance on the storage of carbon dioxide streams in geological formations will contribute to the short-term and long-term protection of the maritime area. Recognizing the need for rules to be developed to establish clear rights and responsibilities relating to access to the property and that clarify the responsibilities during pre- and post-closure. The guidance will be integral to the subsequent pursuit of activities relating to the storage of carbon dioxide streams in geological formations;

The Contracting Parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic adopt the following amendments of the Annexes II and III to the Convention:

IN ANNEX II ARTICLE 3 PARAGRAPH 2 A NEW SUB-PARAGRAPH “F” IS ADDED AS FOLLOWS:

- f. carbon dioxide streams from carbon dioxide capture processes for storage, provided:
 - i. disposal is into a sub-soil geological formation;
 - ii. the streams consist overwhelmingly of carbon dioxide. They may contain incidental associated substances derived from the source material and the capture, transport and storage processes used;
 - iii. no wastes or other matter are added for the purpose of disposing of those wastes or other matter;
 - iv. they are intended to be retained in these formations permanently and will not lead to significant adverse consequences for the marine environment, human health and other legitimate uses of the maritime area.

IN ANNEX III ARTICLE 3 NEW PARAGRAPHS 3 AND 4 ARE ADDED AS FOLLOWS:

- 3. The prohibition referred to in paragraph 1 of this Article does not apply to carbon dioxide streams from carbon dioxide capture processes for storage, provided
 - a. disposal is into a sub-soil geological formation;
 - b. the streams consist overwhelmingly of carbon dioxide. They may contain incidental associated substances derived from the source material and the capture, transport and storage processes used;
 - c. no wastes or other matter are added for the purpose of disposing of those wastes or other matter;

- d. they are intended to be retained in these formations permanently and will not lead to significant adverse consequences for the marine environment, human health and other legitimate uses of the maritime area.

4. The Contracting Parties shall ensure that no streams referred to in paragraph 3 shall be disposed of in sub-soil geological formations without authorisation or regulation by their competent authorities. Such authorisation or regulation shall, in particular, implement the relevant applicable decisions, recommendations and all other agreements adopted under the Convention.

OSPAR CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT OF
THE NORTH-EAST ATLANTIC
MEETING OF THE OSPAR COMMISSION (OSPAR)
OSTEND: 25-29 JUNE 2007

OSPAR Decision 2007/1 to Prohibit the Storage of Carbon Dioxide Streams in the Water Column or on the Sea-bed

RECALLING the general obligations in Article 2 of the Convention for the Protection of the Marine Environment of the North-East Atlantic;

BEING SERIOUSLY CONCERNED by the implications for the marine environment of climate change and ocean acidification due to elevated concentrations of carbon dioxide in the atmosphere;

EMPHASISING the need to further develop renewable and low carbon forms of energy generation and use;

RECOGNISING that carbon dioxide capture and storage is one of a portfolio of options to reduce levels of atmospheric carbon dioxide, and that it represents an important interim supplement to measures for the reduction or prevention of carbon dioxide emissions and should not be considered as a substitute for such measures;

NOTING that, since the adoption of the Convention, developments in technology have made it possible to capture carbon dioxide from industrial and energy-related sources, transport it and inject it into geological formations for long-term isolation from the atmosphere and the sea;

HAVING AGREED to amend Annexes II and III to the Convention to facilitate the long-term safe storage of carbon dioxide streams in geological formations and NOTING that regulating such activity is within the scope of the Convention;

CONVINCED that carbon dioxide storage in the water column or on the sea-bed is not a sustainable storage option, is likely to result in harm to living resources and marine ecosystems and is thus neither a viable solution with regard to mitigating climate change nor compatible with the aims of the Convention;

CONCERNED that in international fora ocean storage of carbon dioxide in the water column or on the seabed is nevertheless still under consideration;

NOTING Article 1(g)(i) which excludes from the definition of dumping the disposal of wastes or other matter incidental to, or derived from, the normal operations of vessels or aircraft as defined in Article 1(n) or offshore installations as defined in Article 1(l);

NOTING FURTHER Article 1(g)(ii) which excludes from the definition of dumping the placement of matter for a purpose other than the mere disposal thereof;

The Contracting Parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic decide that:

The placement¹ of carbon dioxide streams in the water column or on the seabed is prohibited, unless it results from normal operations as described in Article 1(g)(i) of the Convention or is for a purpose other than the mere disposal thereof as described in Article 1(g)(ii) of the Convention and is in accordance with the relevant provisions of the Convention.

This Decision enters into force on 15 January 2008.

¹ For the purpose of this Decision, the term “placement” encompasses the term “disposal”.

**OSPAR CONVENTION FOR THE PROTECTION OF THE MARINE ENVIRONMENT
OF THE NORTH-EAST ATLANTIC**

MEETING OF THE OSPAR COMMISSION

OSTEND: 25-29 JUNE 2007

**OSPAR Decision 2007/2 on the Storage of Carbon Dioxide Streams in
Geological Formations**

RECALLING the general obligations in Article 2 of the Convention for the Protection of the Marine Environment of the North-East Atlantic;

RECALLING Article 21 of the Convention on procedures for consultation between Contracting Parties;

RECALLING ALSO the adoption of the amendments of Annex II and Annex III to the OSPAR Convention relating to the storage of carbon dioxide streams in geological formations ;

EMPHASISING the need for the storage of carbon dioxide streams to be environmentally safe and to ensure net reductions of carbon dioxide emissions;

RECALLING that carbon dioxide capture and storage is not a mandatory obligation for the Contracting Parties to the Convention but an option which the individual Contracting Parties can choose to allow the use of;

RECOGNISING the need for authorisation or regulation by the competent authorities of the Contracting Parties to effectively control the storage of carbon dioxide streams in geological formations;

RECOGNISING that guidance on the storage of carbon dioxide streams in geological formations will contribute to the short-term and long-term protection of the maritime area;

WELCOMING the finalisation of the OSPAR Guidelines for Risk Assessment and Management of Storage of CO₂ Streams in Geological Formations;

BEING AWARE of the fact that scientific knowledge of the environmental risks of storage of carbon dioxide streams in geological formations is in development and that the Guidelines for Risk Assessment and Management of Storage of Carbon Dioxide Streams in Geological Formations, including the Framework for Risk Assessment and Management, will be evaluated and reviewed as this knowledge progresses;

The Contracting Parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic DECIDE:

1. Definitions

1.1 For the purpose of this Decision:

‘geological formations’	means geological formations in the sub-soil of the OSPAR maritime area, including sub-seabed geological formations;
‘carbon dioxide streams’	means those streams that consist overwhelmingly of carbon dioxide from carbon dioxide capture processes for storage in geological formations in the sub-soil of the OSPAR maritime area. Provided that no wastes or other matter are added for the purpose of disposing of those wastes or other matter, the carbon dioxide streams may contain incidental associated substances derived from the source material and the capture, transport and storage processes used;
‘operator’	means companies operating or controlling the operations of installations used for the process of capture and storage of carbon dioxide streams in geological formations.

2. Purpose and scope

2.1 The purpose of the Decision is that by application of the OSPAR Guidelines for Risk Assessment and Management of Storage of CO₂ Streams in Geological Formations, authorities shall ensure that carbon dioxide streams, which are stored in geological formations, are intended to be retained in these formations permanently and will not lead to significant adverse consequences for the marine environment, human health and other legitimate uses of the maritime area.

This Decision shall be applied to any regulatory action, such as the granting of permits or approvals by the competent authorities concerning the storage of carbon dioxide streams in geological formations.

3. Programmes and Measures

3.1 The storage in geological formations of carbon dioxide streams from carbon dioxide capture processes shall not be permitted by Contracting Parties without authorisation or regulation by their competent authorities. Any authorisation or regulation shall be in accordance with the OSPAR Guidelines for Risk Assessment and Management of Storage of CO₂ Streams in Geological Formations, as updated from time to time. A decision to grant a permit or approval shall only be made if a full risk assessment and management process has been completed to the satisfaction of the competent authority and that the storage will not lead to significant adverse consequences for the marine environment, human health and other legitimate uses of the maritime area.

- 3.2 The provisions of the permit or approval shall ensure the avoidance of significant adverse effects on the marine environment, bearing in mind that the ultimate objective is permanent containment of CO₂ streams in geological formations. Any permit or approval issued shall contain at least:
1. a description of the operation, including injection rates;
 2. the planned types, amounts and sources of the CO₂ streams, including incidental associated substances, to be stored in the geological formation;
 3. the location of the injection facility;
 4. characteristics of the geological formations
 5. the methods of transport of the CO₂ stream;
 6. a risk management plan that includes:
 - i. monitoring and reporting requirements ;
 - ii. mitigation and remediation options including the pre-closure phases; and
 - iii. a requirement for a site closure plan, including a description of post-closure monitoring and mitigation and remediation options; monitoring shall continue until there is confirmation that the probability of any future adverse environmental effects has been reduced to an insignificant level.
- 3.3 Permits or approvals shall be reviewed at regular intervals, taking into account the results of monitoring programmes and their objectives.
- 3.4 Contracting Parties shall also encourage operators to make publicly available plans for the storage of carbon dioxide streams in geological formations and subsequent progress reports on the realization and performance of the various phases of those activities throughout the life cycle of the project.
- 3.5 The competent authorities shall require reports, including post-closure reports on the results of the risk assessment and management process from the operator. The data from these reports shall be made available to the Commission.
- 3.6 Sufficient stakeholder involvement shall be ensured in the process of risk assessment and management as to ensure completeness in the assessment process.

4. Entry into Force

- 4.1 This Decision enters into force, in respect of storage in accordance with Annex I to the Convention, on 15 January 2008 and, in respect of storage in accordance with Annexes II and III, from the date of entry into force of the amendments of those Annexes.

5. Implementation Report

- 5.1 A Contracting Party that issues a permit for the storage of carbon dioxide streams in geological formations shall notify the Executive Secretary. The Executive Secretary shall send copies of the notification to all Contracting Parties.

- 5.2 Subsequent to the notification of a permit, the Contracting Party shall report to the next meeting of the appropriate OSPAR subsidiary body on the implementation of this Decision using, to the extent possible, the format as set out in Appendix 1. Subsequent implementation reports shall be made annually.

Appendix 1

Format for Reporting on Implementation of OSPAR Decision 2007/2 On the Storage of Carbon Dioxide Streams in Geological Formations

Country:

Reservation applies

Is measure applicable in your country?

If not applicable, then state why not (e.g. no relevant installation)

.....
.....
.....
.....

Means of Implementation:	by legislation	by administrative action	by negotiated agreement
	yes/no*	yes/no*	yes/no*

Please provide information on:

- a. specific measures taken to give effect to this measure;
- b. any special difficulties encountered, such as practical or legal problems, in the implementation of this measure;
- c. the reasons for not having fully implemented this measure should be spelt out clearly and plans for full implementation should be reported;
- d. if appropriate, progress towards being able to lift the reservation.

.....
.....
.....

II. Implementation Report on Effectiveness

* Delete whichever is not appropriate.

Information which is needed to check compliance with the guidelines should be reported by the Contracting Parties with regard to the following topics:

General basis	Year concerned
Cumulative number of permits issued	
Are guidelines implemented	yes/no ²
Amount CO ₂ stored (tonnes)	
Net amount of CO ₂ stored (tonnes)	

Site by Site basis	Year concerned
Chemical composition of the CO ₂ stream	
Type of storage formation	
Any observed leakage rates and exposure pathways	
- any expected impacts from this leakage	
Any observed impacts on the marine environment and other legitimate uses of the maritime area	
Any (mitigative) measures taken	

List of storage sites (including the coordinates of the injection site(s))
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–
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² If “no”, indicate the reasons.