



London Protocol Adopts Amendment Allowing for Sub-seabed Carbon Dioxide Storage

Legal uncertainty is a barrier to the large-scale deployment of carbon capture and storage (CCS). But a recent amendment to the 1996 London Protocol (herein after the Protocol) signals at least one aspect of international law may be changing to help minimize global warming. On November 3, 2006, the Contracting Parties to the Protocol (under the International Maritime Organization, a special agency of the United Nations) adopted an amendment which allows for carbon dioxide storage in sub-seabed formations. Australia prepared the proposal with France, Norway and the United Kingdom co-sponsoring. Since gaining two-thirds approval amongst Protocol parties, the amendment will take force on February 10, 2007. This represents the first international law explicitly addressing carbon sequestration in international waters and a step towards creating a positive international legal framework for CCS activities.

The Protocol adopts a more stringent legal framework for preventing ocean waste disposal than its predecessor, the 1972 London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Convention). The Protocol accomplishes this by using the precautionary principle which holds that if an action or policy might cause severe harm to the public or the environment, the proponents of that action must prove it safe rather than its opponents prove it unsafe. The London Convention legitimized waste disposal at sea by allowing all materials not listed to be disposed of. The Protocol adopts the opposite approach, banning all forms of disposal unless specifically allowed. Although the London Convention was ratified by eighty-two parties, only thirty countries have ratified the Protocol. The United States is a party to the London Convention but has not ratified the Protocol.

With the new amendment to the Protocol, “carbon dioxide streams from carbon dioxide capture processes for sequestration” can be stored if they meet three criteria: (1) disposal is into a sub-seabed geological formation; (2) the carbon dioxide stream is of high purity containing only incidental amounts of associated substances; and (3) no wastes or other matter are added for the purpose of disposing of those wastes or other matter. The Protocol and London Convention’s jurisdiction extends to all waters except internal waters--or waters inland from the beginning of the territorial waters.

The parties also agreed to develop guidelines for sub-seabed geological sequestration of carbon dioxide. These guidelines are slated for discussion at the 2nd meeting of Contracting Parties in November of 2007. This could represent the first legally binding international regulations on CCS activity.

The Sleipner project which began operating in 1996, 250 kilometers off the coast of Norway, is the longest running, large-scale CCS demonstration project in the world. Carbon dioxide is captured from an off-shore natural gas processing platform in the North Sea and injected into a saline formation deep under the ocean floor. Norway is a party to both the London Convention and the Protocol, although when Sleipner was built the Protocol was not yet in effect. While the London Convention appears to prohibit sub-seabed storage of carbon dioxide generated from land-based sources, the project was permitted under an exemption which allows carbon dioxide storage in sub-seabed formations as long as the carbon dioxide originates from the processing of mineral resources under the seabed.¹ In Sleipner, the carbon dioxide is a by product of the natural gas operation and therefore falls within the exemption.

¹ See Article III (c) of the London Convention and Article I 4.3 of the London Protocol.

Because neither the London Convention nor the Protocol were written with CCS in mind, both have exemptions allowing carbon dioxide to be injected directly into the ocean as long as it is the result of mineral resources processing. There is wide opposition to injecting carbon dioxide directly into the ocean because of the uncertainty of its impacts on the ocean environment. While the amendment to the Protocol is a positive step towards allowing for CCS activities, major oversights in both the London Convention and Protocol allowing for direct carbon dioxide injection into the ocean deserve further action.

The changes to the Protocol will likely lead to a revision of the Convention for the Protection of the Marine Environment of the North-East Atlantic (better known as the OSPAR, or Oslo-Paris, Convention), which is the North-East Atlantic's version of the London Protocol. In 2002, the Convention commissioned a report by the Jurists and Linguists to determine how CCS fits into the OSPAR framework. The report concluded that ship-based disposal of carbon dioxide is prohibited. However, carbon dioxide disposal from land based sources, off-shore activities, and for scientific study are permitted with authorization. The report also concluded that carbon dioxide injection into sub-seabed geological structures is allowed for offshore enhanced oil recovery (EOR) activities. The OSPAR Convention provides a more stringent framework for preventing ocean pollution and therefore could possibly provide a more difficult hurdle for CCS activities. However, because many countries are signatories of both OSPAR and the London Convention and Protocol, it more likely that the OSPAR Convention will adopt language explicitly allowing carbon dioxide sub-seabed storage in the interest of legal cohesiveness.

References and Further Reading

“London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter,” 1972. Available at: <http://www.londonconvention.org/documents/lc72/LC1972.pdf>

“Protocol to the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter,” 1996. Available at: <http://www.londonconvention.org/documents/lc72/1996%20PROTOCOL.doc>

“CO₂ Sequestration in Sub-Seabed Formations: Consideration of Proposals to Amend Annex 1 to the London Protocol,” 2006. Submitted by Australia co-sponsored by France, Norway and the United Kingdom. Available at: http://www.aph.gov.au/house/committee/jsct/co2sequestration/treaties/co2_text.pdf

“London Protocol Approves CO₂ Storage.” Bellona. November, 2006. Available at: http://bellona.org/articles/London_protocol

“CO₂ Capture and Storage: Legal, Regulatory and Public Acceptance Issues,” 2005. Presentation by John Gale, IEA Greenhouse Gas R&D Programme, Pittsburgh, PA, USA. Available at: <http://www.ieagreen.org.uk/presentations/12%20JG%20EPRI.pdf>