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Provisional Application of an Amendment to the London Protocol to Facilitate Collaborative CCS Projects

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Document Commented On: Resolution LP.5(14) on the Provisional Application of the 2009 Amendment to Article 6 of the London Protocol, adopted 11 October 2019, by the 14th Meeting of the Contracting Parties to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matters. [Note: Documents relating to the London Convention and Protocol including this document may be accessed on the website of the International Maritime Organization (IMO) [here](#) but users have to create an account to obtain access. Follow “Meeting Documents” and then LC Documents (Session 41). For convenience, the text of the Resolution is included at the foot of this post].

This post examines the recent decision of the Contracting Parties to the 1996 Protocol (the [London Protocol](#) or LP) to the [London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matters](#) (London Dumping Convention or LC) to agree to the provisional application of an amendment to Article 6 of the LP. That amendment (originally adopted in 2009) when it enters into force will allow the export of CO₂ for geological sequestration. The amendment is a crucial piece of the puzzle to permit collaborative projects for the subsea disposal of captured carbon dioxide emissions from industrial facilities located elsewhere than the coastal State responsible for the disposal site. This initiative, which will permit provisional application of that amendment, will help facilitate projects such as the Equinor-led [Northern Lights Project](#) on the Norwegian continental shelf. That project is currently drilling a test well: see [here](#) and [here](#).

Carbon capture and storage (CCS) is a recognized technology for mitigating greenhouse gas (GHG) emissions, in particular carbon dioxide (CO₂) (Intergovernmental Panel on Climate Change (IPCC), [Special Report on Carbon Capture and Storage](#) (2005)). CCS involves the capture of CO₂ at large final emitters, the compression and transportation of the CO₂ to a storage destination and its injection under pressure through an oilfield-type well into the pore space of suitable geological formations, where it will remain forever (according to the IPCC the amount of sequestered CO₂ “is likely to exceed 99% over 1,000 years”; so, effectively forever. [Summary for Policy Makers](#) at 14.) The main storage targets are depleted oil and gas reservoirs and saline aquifers. Although CCS technology has not been adopted as quickly, or on as widespread a basis as had been expected a decade ago, many countries identify a role for CCS projects in their Nationally Determined Commitments under the Paris Agreement, and it is also anticipated that CCS projects will play a role as part of negative emission technologies including CO₂ capture from the air.

Target storage sites may be located either on shore or offshore within the various maritime zones of the coastal States. There are pros and cons associated with selecting an offshore disposal site: see generally, Carbon Sequestration Leadership Forum, Technical Group, [Final Report from](#)

[Task Force on Technical Barriers and R & D Opportunities for Offshore, Sub-Seabed Geologic Storage of CO₂](#), CSLF-T-2015-06, 20 October 2015. Positive aspects include: sediments of continental shelves frequently contain large volumes of high quality storage; in many cases prior oil and gas exploration provides a good geological understanding of the offshore; there is typically a single owner (the State); there is minimal conflict with freshwater aquifers (a major potential concern with onshore sites); the absence of resident populations and communities thereby minimizing or avoiding NIMBY (not in my back yard) objections; there is frequently an existing pipeline and production\injection infrastructure; there are likely fewer legacy wells offshore than onshore to serve as possible pathways to surface; it may be easier and cheaper to apply monitoring techniques and seismic imaging offshore. The principal disadvantages of offshore sites are the elevated costs and risks of offshore operations as well as concerns for the marine environment in the unlikely event of leakage. A 2013 study by the [International Energy Agency \(IEA\)](#) concluded (at 37 – 38) that CO₂ storage is not likely to take place in the near future at onshore locations in the five countries surrounding the North Sea and that the North Sea is a much more promising option both for those countries “and indeed for many other nearby European countries.”

Offshore storage sites also trigger the application of various instruments related to the law of the sea including the [Law of the Sea Convention](#), the London Dumping Convention and the London Protocol, which succeeds the Convention (LP). Regional instruments may also be relevant including the Convention for the Protection of the Marine Environment of the North-East Atlantic ([OSPAR](#)). This post focuses on the London Protocol.

The LP adopts a “prohibited unless permitted” model for dumping with the result that dumping of substances is prohibited unless the waste stream is listed in Annex I of the Protocol. In addition, the Protocol defined dumping to include (Art .1.3) “any storage of wastes or other matter in the seabed and the subsoil thereof from vessels, aircraft, platforms or other man-made structures at sea.” Since CO₂ was not listed as a permitted waste stream, it was clear that the text as originally adopted prohibited geological storage of CO₂ in subsea geological formations. The text would not prohibit the injection of CO₂ as part of a CO₂ EOR (enhanced oil recovery) operation nor the injection of CO₂ as part of the offshore processing of a natural gas stream (such as the [Sleipner project](#) on the Norwegian continental shelf) but the effective prohibition of pure CO₂ disposal operations was generally considered to be an unintentional consequence of the adoption of the instrument at a time when parties were not actively considering CCS as a mitigation option to decrease GHG emissions.

As a result, the first meeting of the Parties to the Protocol agreed to adopt an amendment to Annex 1 of the Protocol to list “Carbon dioxide streams from carbon dioxide capture processes for sequestration” subject to the caveat that such streams “may only be considered for dumping” if the operation meets three conditions. First, the disposal must be into a sub-seabed geological formation (i.e. it does not cover CO₂ disposal into the ocean itself). Second, the waste stream must consist “overwhelmingly of carbon dioxide” but “may contain incidental associated substances derived from the source material and the capture and sequestration processes used”. This would allow a combined waste stream from a gas processing facility that included other acid gases such as hydrogen sulphide along with the CO₂. Third, no wastes or other matter can be added “for the purpose of disposing of those wastes or other matter.” (LP, Annex 1, paras 1.8

and 4.) Amendments to Annex I enter into force for each Contracting Party no later than 100 days following adoption except for any Party that makes a declaration to the contrary within that period. Accordingly, this amendment entered into force for all Parties in 2006. As a result of the amendment, a contracting Party may issue a permit for the sub-seabed disposal of a CO₂ waste stream that meets these requirements.

The Parties to the Protocol have also adopted two sets of technical guidelines for CO₂ operations: the Risk Assessment and Management Framework (RAMF) for CO₂ Sequestration in Sub-seabed Geological Structures, Adopted at the joint session of the 28th Consultative Meeting of Contracting Parties under the LC and the 1st Meeting of Contracting Parties under the LP, 30 October – 3 November 2006, and the Specific Guidelines for the Assessment of Carbon Dioxide for Disposal into Sub-seabed Geological Formations (Adopted 2 November 2012, LC 34/15, annex 8 and amended November 2012). This is not the place to explore the details of those guidelines. For discussion, see T Dixon, S McCoy and I Havercroft, “Legal and Regulatory Developments on CCS” (2015) 40 *International Journal of Greenhouse Gas Control* 431.

These developments still left one outstanding obstacle within the London Protocol to the adoption of CCS in marine areas. This is Article 6, which prohibits the export of wastes “to other countries for dumping or incineration at sea.” The Parties adopted an amendment to provide an exception for the export of CO₂ for geological sequestration in 2009 (Resolution LP.3(4) adopted 30 October 2009) but unlike the amendment to the Annex discussed above, this amendment has to follow the more stringent process for entry into force established for amendments to the Protocol itself. Thus, the amendment will not enter force until two-thirds of the Contracting Parties have indicated their acceptance (LP, Article 21). As of the most recent meeting of the Parties to the LP only six of the 53 States Parties had adopted the amendment: Norway, the United Kingdom, the Netherlands, Iran, Finland and Estonia: see LC 41/17, 17 October 2019 at 12.

The amendment would add an additional paragraph to the prohibition on export in Article 6 so as to provide that, notwithstanding the prohibition, an export of a CO₂ waste stream for disposal may occur provided that “an agreement or arrangement” has been entered into by “the countries concerned”. The agreement or arrangement must include a “confirmation and allocation of permitting responsibilities” consistent with the Protocol “and other applicable international law”; and, where the export is to a non-contracting Party, steps must be taken to include provisions that ensure that there is no derogation from the obligations of Parties to “protect and preserve the marine environment”. The Parties have also adopted a guidance note on the requirements for an agreement or arrangement that meets the requirements of Article 6.2: see Guidance on the Implementation of Article 6.2 on the Export of CO₂ streams for disposal in sub-seabed geological formations for the purposes of sequestration (2013), attached as Annex 6 to the Report of the 35th Consultative Meeting of Contracting Parties to the LDC and the Eighth Meeting of the Contracting Parties to the PLDC, 21 October 2013, LC 35/15.

Given the challenge associated with bringing the amendment into force in a timely manner, interested parties began to explore alternative options within different fora. For example, the IEA issued a report on [*Carbon Capture and Storage and the London Protocol: Options for Enabling Transboundary CO₂ Transfer*](#) (2011). This report explored six different options that Parties

might consider pending the entry into force of the amendment: (1) an interpretative resolution based on the general rule of interpretation; (2) resolving to provisionally apply the 2009 amendment; (3) subsequent agreement between contracting parties (bilateral or multilateral); (4) modification of the operation of relevant aspects of the London Protocol as between two or more contracting parties; (5) suspension of the operation of relevant aspects of the London Protocol as between two or more contracting parties; and (6) conducting CCS through non-contracting parties. See also D Langlet, 'Exporting CO₂ for Sub-Seabed Storage: The Non-Effective Amendment to the London Dumping Protocol and Its Implications' (2015) 30 *IJMCL* 395 exploring the options at 395 – 397.

Matters were brought to a head at the most recent Meeting of the Parties (October 2019) prompted by a proposed resolution jointly submitted by the Netherlands and Norway (Proposed resolution on the provisional application of the 2009 amendment to article 6 of the London Protocol, 2 August 2019 available on the IMO website, *supra*). The proposal noted (at para 4) that “provisional application ... would allow States to give their consent to cross-border transport of carbon dioxide for the purpose of geological storage without entering into non-compliance with international commitments.” The proposal further noted (at para 15 and as further explained above) that “Because of the previous work on guidelines and framework for export and geological storage below the seabed of carbon dioxide within the frames of the London Protocol, a provisional application of the amended article 6 will not require extensive clarifying documentation. Criteria, demands and prerequisites for the activity are already in place.”

The following two sections of the post examine the debate within the meeting and then the relevant law on provisional application.

The Debate

The Meeting Report provides a summary of the debate. While many parties expressed support, some delegations “urged that reduction of CO₂ at source should be the primary focus, and that the targeted emissions for CCS should be those that were unavoidable.” Both Greenpeace International and ACOPS (Advisory Committee on Protection of the Sea) referenced the marine environmental provisions of the LOSC and noted in particular “the duty not to transfer damage or hazards or transform one type of pollution to another, and emphasized that any action of transboundary pollution was in contravention of [LOSC].” This is evidently a reference to article 195 of the LOSC which provides as follows:

In taking measures to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.

Following “extensive discussion” the Meeting established a drafting group chaired by Linda Porebski (Canada) to finalize the text of the proposed resolution in light of three considerations:

1. to ensure that priority is given to reduction and control of CO₂;
2. to encourage information-sharing; and

3. to address the reference to the IPCC report.

The last point arose as a result of a proposal from Saudi Arabia and the United Arab Emirates that the resolution *not* refer to the [IPCC's special report](#) on the consequences of a 1.5 degrees global warming.

The Report of the Drafting Group on the Proposed Resolution on the Provisional Application of the 2009 Amendment to Article 6 of the London Protocol, (available [here](#)) addressed the three issues as follows. First, with respect to *prioritization of CO₂ reduction and control*, the Group noted that the draft text already included a preambular paragraph recognizing that CCS “should not be considered as a substitute to other measures to reduce carbon dioxide emissions” but nevertheless agreed to strengthen the text by substituting the word "Recalling" with "Reiterating". The Group also agreed to refer to the 2012 Specific Guidelines (referenced above) since the Guidelines also note that CCS is not to be used as an alternative to reduction and control at source.

The group addressed *information-sharing* by including a preambular paragraph urging States to share information on provisional application including information on the agreements or arrangements for export, and to share experiences with the 2012 Specific Guidelines. Finally, the Group agreed to *reference IPCC reports* more generally by including preambular text;

STRESSING the need of the deployment of carbon capture and sequestration in order to reach our climate targets in the Paris Agreement, repeated by IPCC in its recent special reports.

The most contentious issue for the group was the question of how (if at all) to address unavoidable emissions. As noted above, several delegations were of the view that the provisional application of article 6 should only apply to CCS for unavoidable emissions from primary industry and recommended revising the preamble as follows:

RECOGNIZING the need of the deployment of carbon capture and sequestration of emissions that cannot be prevented otherwise in order to reach our climate targets in the Paris Agreement, repeated by IPCC in its recent special reports.

While such an amendment would no doubt serve to narrow the scope of any exception, it was perhaps also intended to create such a degree of uncertainty that it might be difficult for a commercial party ever to be able to rely on the exception. What would a contracting Party (and the operators behind any specific proposal) need to show in order to demonstrate that a CCS project was only capturing and injecting “emissions that cannot be prevented otherwise”? Some Parties also noted that the proposed amendment went beyond the remit of the Drafting Group insofar as it offered a substantive change to the scope of the proposed resolution and was not included in the matters referred to the Drafting Group. In the end, the Group rejected the proposed qualification and instead included language that made it clear that the LP obliged Parties to reduce the need for such disposal operations and does not remove the commitments of Parties under the UNFCCC “to reduce greenhouse gas emissions, taking into account the recent Special Reports of IPCC” and “EMPHASIZING the need to further develop low carbon forms of energy”.

Finally, in addition to some editorial changes for clarity and consistency, the Group also agreed to include an additional operative paragraph, apparently out of an abundance of caution, to emphasize that “the export of carbon dioxide under the provisional application of the amended article 6 of the London Protocol will not be in breach of article 6 as in force, at the time of export.”

While Greenpeace International and ACOPs continued to object to elements of the Resolution, the Resolution seems to have been adopted by consensus of the Meeting of the Parties on the basis of the text as proposed by the Drafting Group with the added encouragement to Parties “to accept the 2009 amendment to article 6 noting that this was a crucial element of the 2006 amendments that could make CCS as a climate change mitigation technology a success and contribute to meeting the climate targets set in the Paris Agreement.” (LC 41/17 at 15)

Provisional Application of a Treaty

The relevant law on the provisional application of a treaty is codified in Article 25 of the [Vienna Convention on the Law of Treaties](#) (VCLT) which provides that:

1. A treaty or part of a treaty is applied provisionally pending its entry into force if:
 - (a) the treaty itself so provides; or
 - (b) the negotiating States have in some other manner so agreed.
2. Unless the treaty otherwise provides or the negotiating States have otherwise agreed, the provisional application of a treaty or a part of a treaty with respect to a State shall be terminated if that State notifies the other States between which the treaty is being applied provisionally of its intention not to become a party to the treaty.

Article 25 evidently established two distinct circumstances in which the parties to a treaty may provide for provisional application of an entire treaty or *part of* a treaty: if the treaty so provides, or if the “negotiating States” otherwise agree. Since neither the London Protocol nor the amendment itself addressed provisional application, the Resolution must be considered an instance of an agreement on provisional application adopted “by some other means”. The proponents of the Resolution were at pains to emphasize that paragraph 1(b) is non-specific as to the form of agreement amongst the “negotiating States” thereby contending that such an agreement could be signified by the adoption of the Resolution as proposed. The key therefore is that the text of the Resolution must itself establish that it is such an agreement. In this regard the text as adopted seems much clearer than the text as proposed. Here is the comparison:

Text as proposed: “1 AFFIRMS that the 2009 amendment will be applied provisionally among those Parties which have deposited such declarations.”

Text as adopted: “1 DECIDES to allow for the provisional application of the 2009 amendment pending its entry into force by those Contracting Parties which have deposited a declaration on provisional application of the 2009 amendment.”

The proponents made light of the reference to “negotiating States” in Article 25, simply noting that in this case it must mean the Parties to the Protocol (see proposal at para 9). While this answer may be too glib, it perhaps hardly matters if, as in this case, the “agreement” is adopted by all Parties by consensus.

The International Law Commission (ILC) is currently engaged in a [program of work on the Provisional application of Treaties](#). While that work has yet to be completed the ILC Secretariat has prepared a compilation of relevant state practice (see Memorandum by the Secretariat, 24 March 2017, [A/CN.4/707](#)). That compilation confirms that an agreement on provisional application may be adopted by the negotiating parties at the time of adoption of the instrument itself *or at a subsequent time* and that the agreement may take the form of a resolution adopted by the organization responsible for the treaty (at paras 31 – 36). The compilation is more tentative with respect to the question of “negotiating States” noting that (at para 37):

The question of whether the term “negotiating States” in article 25, paragraph 1 (b), of the 1969 Vienna Convention would prevent acceding States from entering into an agreement on provisional application cannot be clearly answered based on the multilateral treaties considered in the present study.

Conclusion

To the extent that one accepts that CCS may be an important technology to assist States in meeting their obligations to reduce GHG emissions and to facilitate the adoption of negative emission technologies, then it follows that we should aim to eliminate artificial barriers to its adoption. The proponents of this proposal identified Article 6 of the LP as such a barrier and argued that:

Provisional application of the amendment to article 6 of the London Protocol would remove a regulatory barrier to the deployment of carbon capture and storage technologies. The use of shared infrastructure across borders will be important to get cost reductions through risk sharing and economies of scale for projects and sequester the requisite amounts of carbon dioxide needed to meet climate targets set in the Paris Agreement. (Proposal at para 12)

This decision on provisional application should not be considered in isolation but in the context of the considerable steps that the Parties to the LP have already taken to put in place a regulatory scheme including guidelines and conditions under which seabed CCS operations might be permitted (see above). Parties who agree to provisionally apply the amendment and who agree to proceed with a collaborative project will have to enter into an agreement or arrangement that must include a “confirmation and allocation of permitting responsibilities”. It is thus possible to conclude that all States affected by an activity authorized pursuant to the amendment provisionally put in force will have to give their consent to the project. This perhaps makes it easier to contemplate piecemeal and provisional implementation of the amendment. This may not always be the case with other proposed amendments to the Protocol and in that context it is important to note that the Preamble to the resolution recites that “provisional application of the

2009 amendment of the London Protocol does not set any precedent as to the use of provisional application within the London Convention or London Protocol”.

Note: the introductory part of this post draws on two forthcoming publications: Nigel Banks, “The Use of sub-seabed transboundary geological formations for the disposal of carbon dioxide” in Catherine Banet (ed), *New Uses of the Seabed*, Brill, forthcoming (2019) and Nigel Banks, “Carbon Capture and Storage and the Law of the Sea” in Elise Johansen et al, (eds) *The Law of the Sea and Climate Change*, forthcoming, Cambridge University Press (2020).

ANNEX 2

RESOLUTION LP.5(14)

ON THE PROVISIONAL APPLICATION OF THE 2009 AMENDMENT TO ARTICLE 6 OF THE LONDON PROTOCOL

(Adopted on 11 October 2019)

THE FOURTEENTH MEETING OF CONTRACTING PARTIES TO THE 1996 PROTOCOL TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER, 1972

RECALLING the objectives of the 1996 Protocol to the London Convention (“London Protocol”) that include the protection and preservation of the marine environment from all sources of pollution;

REITERATING the serious concern regarding the implications for the marine environment of climate change and ocean acidification, as a result of elevated levels of carbon dioxide in the atmosphere;

RECALLING the adoption and entry into force of the amendment which included the sequestration of carbon dioxide streams in sub-seabed geological formations in annex 1 to the London Protocol made through resolution LP.1(1) (2006);

REITERATING that resolution LP.1(1) recognizes that carbon dioxide capture and sequestration should not be considered as a substitute to other measures to reduce carbon dioxide emissions, but considered such sequestration as one of a portfolio of options to reduce levels of atmospheric carbon dioxide and as an important interim solution, also as referred to in paragraph 1.5 of the 2012 Specific Guidelines for the assessment of carbon dioxide for disposal into sub-seabed geological formations;

STRESSING that the disposal of carbon dioxide streams into sub-seabed geological formations does not remove the obligation under the London Protocol to reduce the need for such disposal and the commitments under UNFCCC to reduce greenhouse gas emissions, taking into account the recent special reports of IPCC;

EMPHASIZING the need to further develop low carbon forms of energy; NOTING that not all States have suitable sub-seabed geological formations for the sequestration of carbon dioxide streams;

RECALLING the work of the Legal and Technical Working Group on Transboundary CO2 Sequestration Issues and its conclusions, as set out in its report (document LP/CO2 1/8), and the work of the Intersessional Correspondence Group on Transboundary CO2 Sequestration Issues and its conclusions, as set out in its report (document LC 31/5);

REITERATING the conclusion of Contracting Parties in 2008 (document LP 30/16) that the London Protocol should not constitute a barrier to the transboundary movement of carbon dioxide streams to other States for disposal as a measure to mitigate climate change and ocean acidification;

REFERRING to the adoption of the amendment to article 6 of the London Protocol at the meeting of the Contracting Parties on 30 October 2009 through resolution LP.3(4) (2009 amendment), to allow for the export of carbon dioxide for the purpose of permanent storage in geological formations below the seabed;

ENCOURAGING further acceptances of the amendment to article 6 of the London Protocol in accordance with article 21 of the London Protocol;

STRESSING the need of the deployment of carbon capture and sequestration in order to reach the climate targets in the Paris Agreement, repeated by IPCC in its recent special reports;

RECALLING that national acceptance processes of the 2009 amendment have shown to be time consuming and that, despite great efforts, only a few acceptances have been made;

WELCOMING the proposal for a preliminary solution suggesting provisional application of the 2009 amendment pending further acceptances and formal entry into force;

EMPHASIZING that neither the 2009 amendment nor this resolution should be interpreted as legitimizing the export of any other waste or other matter to other States for disposal;

EMPHASIZING ALSO that provisional application of the 2009 amendment of the London Protocol does not set any precedent as to the use of provisional application within the London Convention or London Protocol;

URGING States to share the information on the provisional application of the amendment, including agreements or arrangements entered into between exporting and receiving States and experience with the application of the 2012 Specific Guidelines for the assessment of carbon dioxide for disposal into sub-seabed geological formations within that context,

- 1 DECIDES to allow for the provisional application of the 2009 amendment pending its entry into force by those Contracting Parties which have deposited a declaration on provisional application of the 2009 amendment;
- 2 INVITES Contracting Parties to deposit with the Depositary a declaration on provisional application of the 2009 amendment of the London Protocol pending its entry into force;
- 3 FURTHER RECALLS the obligation to notify the Depositary of agreements or arrangements mentioned in article 6, paragraph 2 of the London Protocol (as amended by resolution LP.3(4));
- 4 AFFIRMS that the export of carbon dioxide under the provisional application of article 6 of the London Protocol (as amended by resolution LP.3(4)), and in compliance with the requirements of paragraph 2 of the article (as amended by resolution LP.3(4)) will not be in breach of article 6 as in force at the time of the export; and
- 5 URGES Contracting Parties to consider accepting the amendment to article 6 of the London Protocol adopted through resolution LP.3(4).

This post may be cited as: Nigel Bankes, “Provisional Application of an Amendment to the London Protocol to Facilitate Collaborative CCS Projects” (December 10, 2019), online: ABlawg, http://ablawg.ca/wp-content/uploads/2019/12/Blog_NB_Article6.pdf

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