



# **London Protocol and Norway and EOR. Some reflections**

Tim Dixon

IEA Greenhouse Gas R&D Programme

4 May 2018

3<sup>rd</sup> Offshore CCS Workshop

# Transboundary CCS London Convention



## London Protocol Article 6

“EXPORT OF WASTES OR OTHER MATTER

*Contracting Parties shall not allow the export of wastes or other matter to other countries for dumping or incineration at sea.”*

- Prohibits transboundary transport of CO<sub>2</sub> for geological storage offshore
- LP4 30 Oct 2009 - Amendment was adopted by vote. Article 6 , new para 2. ‘Export of CO<sub>2</sub> for disposal in accordance with Annex 1 may occur, provided an agreement or arrangement has been entered into by countries concerned’
- Agreement shall include : permitting responsibilities; for export to non-LP Parties provisions equivalent to LP’s.
- **Amendment needs two-thirds of countries (49) to ratify to come into force (currently 33 parties).**

# London Protocol Transboundary

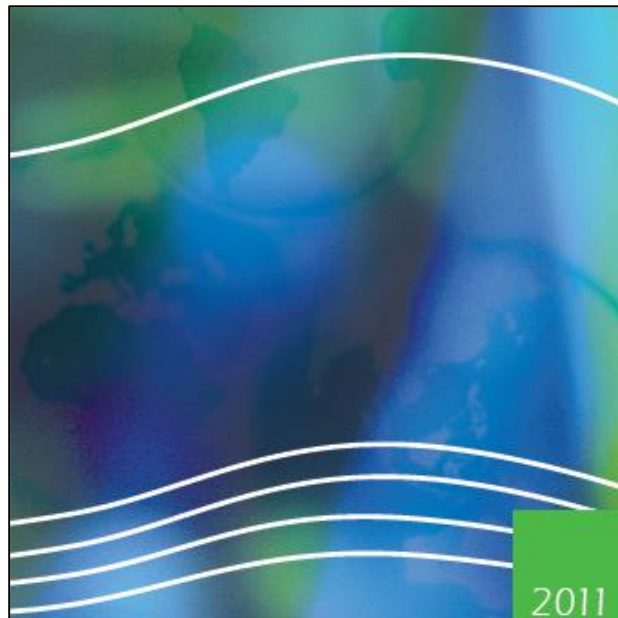


## 2017 Update

- 2012 - Revised CO<sub>2</sub> Specific Guidelines approved and adopted at LC-34, Oct 29, London. Covering subsurface transboundary migration. Transboundary storage offshore now possible
- Transboundary movement of CO<sub>2</sub> streams after injection is not export in the sense of article 6, of the London Protocol
- 2013 - New 'Guidance on Export of CO<sub>2</sub> Streams for Disposal' approved to cover responsibilities for 'arrangements or agreements' for export
- All safeguards are now in place for transboundary CCS activity in the marine environment, including export.
- **But – 2009 Transboundary amendment for CO<sub>2</sub> export needs 31 countries to ratify in order to come into force. Only 5 so far (Norway, UK, NL, Iran, Finland), 1-2 more on way (Canada leading)**
- So export of CO<sub>2</sub> still not permitted for offshore storage



- Mr. Koji Sekimizu, Secretary-General of the International Maritime Organization, at the 2012 Annual Meeting (40<sup>th</sup> Anniversary of the London Convention)
- ***“The London Protocol currently is also the only global framework to regulate carbon capture and sequestration in sub-seabed geological formations..... However, it remains a serious concern that, to date, only two of the 43 London Protocol Parties have accepted the 2009 amendment, which is a long way from satisfying the entry-into-force requirements. The importance of securing its entry into force cannot be over-emphasized, if the threat of acidification of the oceans from climate change is to be minimized.”***



2011

# Carbon Capture and Storage and the London Protocol

*Options for Enabling  
Transboundary CO<sub>2</sub> Transfer*

INTERNATIONAL ENERGY AGENCY

WORKING PAPER

# London Protocol Transboundary - Unresolved issue



- IEA legal report (2011) on 'Options for Enabling Transboundary CO<sub>2</sub> Transfer' before LP amendment ratification, using 1969 Vienna Convention on the Law of Treaties :
  - Option 1: Interpretative resolution
  - Option 2: Provisional application
  - Option 3: Subsequent agreement through an additional treaty
  - Option 4: Modification of the operation of relevant aspects of the London Protocol as between two or more contracting parties
  - Option 5: Suspension of the operation of relevant aspects of the London Protocol as between two or more contracting parties
  - Option 6: Conducting CCS through non-contracting parties
- [https://www.iea.org/publications/freepublications/publication/CCS\\_London\\_Protocol.pdf](https://www.iea.org/publications/freepublications/publication/CCS_London_Protocol.pdf)

# Conclusions and Implications



- For storage beneath sea-bed
  - Storage in transnational storage formations is now possible to be permitted
  - Export (above ground) to other countries for offshore storage is still prohibited (unless for utilisation eg EOR)



# LC and LP early legal work (1)



- Work in 2004/5 looking at scope of LC and LP on project configurations:
  - Scenario 1. CO<sub>2</sub> is generated on land, transported via a pipeline to an offshore structure, and injected into sub-seabed geological storage.
  - Scenario 2. CO<sub>2</sub> is generated on land, transported via a pipeline and injected into a sub-seabed geological storage facility.
  - Scenario 3. CO<sub>2</sub> is generated on land, transported via a ship to an offshore structure and injected into a sub-seabed geological storage facility.
  - Scenario 4. CO<sub>2</sub> is generated on land, transported via a ship and injected from that ship (or other floating structure) into a sub-seabed geological storage facility.
  - Scenario 5. CO<sub>2</sub> is generated offshore (e.g. by separation from natural gas extraction) and injected from that offshore structure into a sub-seabed geological storage facility.
  - Scenario 6. CO<sub>2</sub> is generated offshore (e.g. by separation from natural gas extraction), transported by ship to another offshore structure and injected into a sub-seabed geological storage facility.
  - Scenario 7. CO<sub>2</sub> is generated offshore (e.g. by separation from natural gas extraction), transported by pipeline to another offshore structure and injected into a sub-seabed geological storage facility.

(LC 27/6 23 Aug 2005, LC27/WP.3 26 October 2005)



# LC and LP early legal work (2)



- Some project scenarios out of scope of LP or under exemptions:
  - Scenario 2. Pipeline direct from land to subseabed (using no man-made structures offshore)
  - Scenario 5. CO2 discharges generated offshore under normal operations
  - For EOR/EGR – not disposal
  - Some differing views on whether the other scenarios in scope. Hence 2006 CCS amendment

(LC 27/6 23 Aug 2005, LC27/WP.3 26 October 2005)

# LC and LP early legal work (3)



## Convergence of views

“Despite jurisprudential differences on the characterization of pipelines, there seemed to be no dissent from the view that a simple pipeline originating on land and carrying waste to a location beneath the seafloor without the assistance of supporting vessels, platforms or other man-made structures at sea could be considered "discharge" not "dumping" and therefore subject to different regimes, i.e. Scenario 2 is not covered by the Convention (However, some considered Scenario 2 unlikely in practice since pipeline systems would need to be supported by other structures at sea, e.g. a seabed template.)”

(p5, p15, LC 27/6, 23 August 2005)

***But LP has developed scope since then.....re-evaluate?***

# LP Article 1 Definitions



- Article 1 Definitions
- "Sea" means all marine waters other than the internal waters of States, as well as the seabed and the subsoil thereof; it does not include sub-seabed repositories accessed only from land"

London Protocol, Article 1, parag 7 p3 (2006)

# Useful information sources



- London Convention <http://www.imo.org>
- IEA Regulatory Network  
<http://www.iea.org/topics/ccs/ccslegalandregulatoryissues/>  
(Model Regulatory Framework, Legal Review, Webinars)
- UCL Carbon Capture Legal Programme  
<http://www.globalccsinstitute.com/networks/cclp>



**Thank you**