WHAT YOU NEED TO KNOW - THE LONDON PROTOCOL, CROSS-BORDER SHIPPING AND STORAGE OF CO_2 FOR CCS

Carbon capture and storage (CCS) is vital in reducing emissions globally, but without an international regulatory framework on cross-border CO_2 shipping and storage, will it stall?

There are currently more CCS projects that have been greenlit globally than ever before. According to IEA's latest overview report, project developers have ambitions for over 200 capture facilities to be operational by 2030, and 35 commercial facilities are applying CCS to industrial processes, fuel transformation and power generation.

With any rapidly emerging industry, one considerable challenge for investors is the time it takes for policies and regulations to keep pace with development. Countries and companies are looking to capitalise on the possibility of an international carbon capture value chain, especially where storage facilities exceed national carbon production which could allow for import and, consequently, externally sourced revenues .

In this insight, we'll examine the current state of international regulations for cross-border shipping and storage.

History of the regulatory landscape for offshore CO_2 storage

When captured from heavy carbon-generating industries, carbon dioxide can be stored permanently underground in geological reservoirs of porous rock. The most suitable reservoirs for CO_2 storage are depleted oil and gas reservoirs or deep saline aquifers. There are precise requirements for storing CO_2, including reservoir type, well design and permitting, and the need for long-term monitoring.

When it comes to storing CO_2 offshore, a number of global conventions have been historically in place to protect marine environments from the impact of human activities. One of the first is the "Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972", the "London Convention" for short, which has been in force since 1975

In 2006, the London Protocol replaced the convention with a more precautionary approach. Instead of black and grey lists of what could not be dumped, the London Protocol uses a reverse. Dumping of any materials not on the reverse list requires a permit. The protocol ensures effective control of marine pollution sources and prevents waste dumping. All dumping is prohibited, including the geological sequestration of CO_2 offshore. Exceptions were made for certain categories of wastes or other materials, including dredged material, fish waste and inert, inorganic geological material.

However, later that year, the UK, Norway and other countries proposed that CO_2 streams from carbon capture processes for geological sequestration be added to the list of materials that may be considered for dumping. This amendment went into force in 2007, providing the legal basis for permanently isolating CO_2 in sub-seabed geological formations. This amendment did not address the cross-border export of CO_2, which remained prohibited to stop countries exporting waste to countries that have not signed the London Protocol.

Norway, having built the world's first industrial-scale CCS project, Sleipner CCS, proposed in 2009 to tackle the prohibition of export and cross-border shipping of CO_2. The amendment to Article 6 of the London Protocol stated "the export of carbon dioxide streams for disposal" may occur as long as "an agreement or arrangement" has been entered into by the countries concerned. Accordingly, the proposal stipulates that the countries involved in the cross-border transport of CO_2 must enter into bilateral

agreements or understandings, and that all the Protocol's other protection standards and requirements have been met.

There are currently 53 Parties to the Protocol. However, only the following countries have signed the 2009 amendment. They are Norway, the UK, the Netherlands, the Islamic Republic of Iran, Finland, Estonia, Sweden, Denmark, Korea, and Belgium. Article 21 of the London Protocol requires a two-thirds majority vote which has not been obtained. The amendment is, therefore, as yet not ratified and cannot be considered to be formally in force.

In 2019, Norway and the Netherlands addressed the lack of ratification by using the Vienna Convention on the law of treaties. The convention allows for agreement between nations to be applied provisionally if the treaty allows this and the negotiating states have both agreed in some manner.

Recent developments

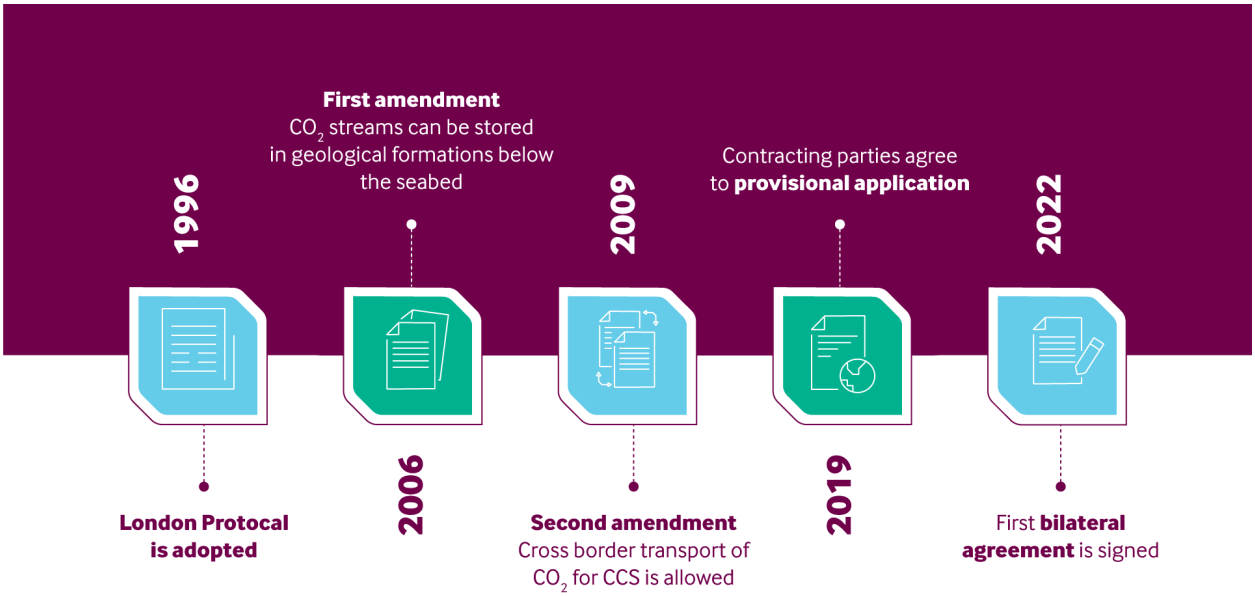
On 5 April 2022, the Norwegian government issued a press release stating that the Norwegian and Swedish prime ministers had agreed to enter into an agreement or arrangement as soon as possible.

In May of that year, the Northern Lights JV and the UK waste management and recycling company, Cory, also announced that they had entered into a memorandum of understanding to explore the opportunity to transport CO_2 from the UK to Norway. Northern Lights is part of the CCS value chain initiative by the Norwegian state called "Longship". The CO_2 will be transported from the UK and stored in subsea reservoirs on the Norwegian Continental Shelf.

At the Northern Lights Summit held in June 2022, Martijn Smit, Business Development Director for Northern Lights, spoke about the role these agreements play when investing in the expansion of large-scale CCS projects like Northern Lights. He said, "There are three different timelines that need to come together at one moment in time – Northern Lights needs to take an investment decision, the capture sites need to take an investment decision, and bilateral agreements need to come into being." At that same summit, Minister of Petroleum and Energy, Terje Aasland, stated ”we need to enable cross-border transport of CO_2 for storage. Then we need bilateral agreements, as required by the London Protocol. This topic is very high on our agenda. And we are now ready to enter into bilateral negotiations with other states."

In September 2022, Denmark and Belgium also signed a declaration of intent on how cross-border CO_2 transportation can occur under the London Protocol between these two countries.

Looking outside of Europe, Australia has lodged a bill in parliament that is expected to pass to enable carbon pollution to be imported to Australia. The chief executive of Santos, a major producer in the area, Kevin Gallagher, said that CCS was an "opportunity to establish a new, large-scale industry producing carbon offsets that will be in heavy demand from emitting countries that lack Australia's competitive advantages".



Supporting clients in delivering successful CCS projects

There are encouraging signs that governments are more optimistic about CCS storage. However, bilateral arrangements and agreements are still currently required for conducting cross-border export and import of CO_2.

It is important for project developers to have a partner with deep expertise in the international regulatory frameworks for CCS development. With an understanding of the complete CCS value chain, RPS is able to support feasibility studies, including storage site selection and evaluating the collection, transportation and other facilities.

We provide assurance for financing to attract investment. Our advisory services cover value chain due diligence, risk and uncertainty analyses, or Competent Persons' Reporting for capacity under the CO_2 Storage Resources Management System (SRMS).

We have decades of experience in permitting and consenting for offshore and onshore developments, including Class VI injection well application support. Additionally, we support project implementation and management. Once stored, we provide measurement, monitoring and verification services to ensure the CO_2 stays where it is put.

Learn more about our services for CCS projects at rpsgroup.com/CCS