

The EU legal framework for cross-border CO₂ transport and storage in the context of the requirements of the London Protocol

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1. Legal base:

1. Directive 2009/31/EC on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006
2. Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC
3. 1996 PROTOCOL TO THE CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER, 1972 (as amended in 2006) with its 2009 Amendment of Art. 6 (London Protocol).

2. Background:

Directive 2009/31/EC on the geological storage of CO₂ (so-called "CCS Directive") establishes an EU legal framework for the environmentally safe geological storage of CO₂ to contribute to the fight against climate change. It covers all CO₂ storage in geological formations in the EU and the entire lifetime of storage sites. It also contains provisions on the capture and transport components of CCS, though these activities are covered mainly by existing EU environmental legislation, such as the Environmental Impact Assessment (EIA) Directive or the Industrial Emissions Directive, in conjunction with amendments introduced by the CCS Directive.

According to Directive 2003/87/EC (ETS Directive), allowances do not need to be surrendered for emissions that are captured and safely stored in accordance with the legal framework on CCS. Article 12(3a) of the ETS Directive¹ provides this rule since amended by Directive 2009/29/EC. In accordance with Article 12(3a) of the ETS Directive, the exception to surrendering allowances in case of CCS only applies when the emissions are stored in a facility with a permit in force in accordance with the CCS Directive. This is reflected in the CCS activities in Annex I of the ETS Directive, which refer to the capture, transport or storage "*in a storage site permitted under Directive 2009/31/EC*". Under the CCS Directive, only storage facilities in the EEA can obtain a permit. Thus, storage outside the EEA cannot comply with the requirements of Article 12(3a).

¹ This rule is further developed in Art. 49 of Regulation (EU) 2018/2066 (Monitoring and Reporting Regulation or 'MRR'), which provides that CO₂ that is not emitted from the installation, but transferred out for any part of the CCS process, should be subtracted from an installations' emissions.

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In addition, the activities of CO₂ capture, transport and storage installations are explicitly included in the ETS², to cover all the emissions from the CCS process (e.g., leaks or fuel used in the transport) to ensure it results in a real environmental benefit.

The London Convention and the London Protocol are the global agreements that protect the marine environment from pollution caused by the dumping of wastes and other matter at sea. Under the London Convention Contracting Parties are required to issue a permit for the dumping of wastes and other matter at sea, and generally prohibit the dumping of certain hazardous materials. The treaty includes a so-called "black- and grey-list" approach. The black list contains substances that are prohibited from being dumped, while the grey list contains substances that may be considered for dumping under strict control, provided that certain conditions are met. All other materials or substances can be dumped after a general permit has been issued.

The London Protocol was adopted in 1996, building on and modernizing the principles developed under the London Convention, it has been in force since 24 March 2006. The Protocol represents a comprehensive stand-alone global agreement with the objective of providing more stringent protection of the marine environment from pollution caused by dumping wastes and other matter at sea, but always from the perspective of protection from all sources of pollution. The Protocol is similar to the Convention, but it is more restrictive with the application of a "precautionary approach", included as a general obligation. Under the Protocol all dumping is prohibited, with the exception of certain categories of wastes or other matter listed in Annex 1, on a so-called "reverse list" including dredged material, fish waste and inert, inorganic geological material. Extended compliance procedures and technical assistance provisions have been included, while a so-called transitional period allows new Contracting Parties to phase in compliance with the Protocol over a period of five years, provided certain conditions are met.

2.1. The 2006 Amendment of the London Protocol

In 2006 the London Protocol Parties adopted amendments to Annex 1 of the Protocol to include CO₂ streams from CO₂ capture processes for storage to the list of wastes or other matter that may be considered for dumping³. Therefore, to regulate "carbon-dioxide streams from CO₂ capture processes for sequestration" meaning they could be considered for dumping being mindful of the objectives and general obligations of the Protocol set out in articles 2 and 3 and under the following conditions:

"1.8 Carbon dioxide streams from carbon dioxide capture processes for sequestration.

- 2 *The wastes or other matter listed in paragraphs 1.4 and 1.7 may be considered for dumping, provided that material capable of creating floating debris or*

2 Including in the latest Commission proposal for a review as regards CO₂ transport with other means than pipelines.

3 Resolution LP.1(1) on the Amendment to include CO₂ Sequestration in Sub-Seabed Geological Formations in Annex 1 to the London Protocol (2006).

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otherwise contributing to pollution of the marine environment has been removed to the maximum extent and provided that the material dumped poses no serious obstacle to fishing or navigation.

- 3 *Notwithstanding the above, materials listed in paragraphs 1.1 to 1.8 containing levels of radioactivity greater than de minimis (exempt) concentrations as defined by the IAEA and adopted by Contracting Parties, shall not be considered eligible for dumping; provided further that within 25 years of 20 February 1994, and at each 25 year interval thereafter, Contracting Parties shall complete a scientific study relating to all radioactive wastes and other radioactive matter other than high level wastes or matter, taking into account such other factors as Contracting Parties consider appropriate and shall review the prohibition on dumping of such substances in accordance with the procedures set forth in article 22.*
- 4 *Carbon dioxide streams referred to in paragraph 1.8 may only be considered for dumping, if:*
 - .1 disposal is into a sub-seabed geological formation; and*
 - .2 they consist overwhelmingly of carbon dioxide. They may contain incidental associated substances derived from the source material and the capture and sequestration processes used; and*
 - .3 no wastes or other matter are added for the purpose of disposing of those wastes or other matter.”⁴*

These amendments entered into force in 2007 creating a legal basis in international environmental law to regulate the injection of CO₂ waste streams into sub-seabed geological formations for permanent isolation.

However, Article 6 of the Protocol prohibits the export of waste or other matter for dumping in the marine environment, cross border transport of CO₂ for permanent geological storage below the seabed was therefore also prohibited.

2.2. The 2009 Amendment to Article 6 of the London Protocol

At the 2009 meetings of the governing bodies of the London Convention and Protocol, a proposal, made by Norway, to address the export prohibition was considered. At that meeting the Contracting Parties to the London Protocol adopted an amendment to Article 6 of the

⁴ Text from the London Protocol Annex 1: Wastes or other matter that may be considered for dumping, <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/PROTOCOLAmended2006.pdf>

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Protocol⁵ to allow export of carbon dioxide streams for disposal in sub-seabed geological formations. The amendment provides that:

"2 *Notwithstanding paragraph 1, the export of carbon dioxide streams for disposal in accordance with Annex 1 may occur, provided that an agreement or arrangement has been entered into by the countries concerned. Such an agreement or arrangement shall include:*

.2.1 confirmation and allocation of permitting responsibilities between the exporting and receiving countries, consistent with the provisions of this Protocol and other applicable international law; and

.2.2 in the case of export to non-Contracting Parties, provisions at a minimum equivalent to those contained in this Protocol, including those relating to the issuance of permits and permit conditions for complying with the provisions of Annex 2, to ensure that the agreement or arrangement does not derogate from the obligations of Contracting Parties under this Protocol to protect and preserve the marine environment.

A Contracting Party entering into such an agreement or arrangement shall notify it to the Organization."

However, this 2009 "CO₂ export" amendment to Article 6 of the Protocol is not yet in force. It needs to be ratified by being formally accepted by two-thirds of the Parties to the London Protocol and will then come into force globally 60 days later.

2.3. The 2019 Resolution to allow the provisional application of the 2009 Amendment to Article 6 of the London Protocol

In 2019, underlining that the safety of transport and storage of CO₂ for human health and the environment is ensured in all Member States and EEA countries by the proper application of the national provisions transposing the CCS Directive, Norway and the Netherlands co-sponsored a proposed resolution to allow the provisional application of the 2009 Amendment to Article 6 of the London Protocol. The 2009 "CO₂ export" amendment was identified as a legal and regulatory barrier to cross border CCS projects that were being explored and provisional application, in this case, was identified to be an interim solution that would enable two countries to apply the 2009 amendment, pending its entry into force.

Resolution LP.5(14) on the provisional application of the 2009 "CO₂ export" Amendment to Article 6 of the London Protocol⁶ was adopted by the 2019 meeting of the governing bodies of

5 Resolution LP.3(4) on the Amendment to Article 6 of the London Protocol (adopted on 30 October 2009), available at: [https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Resolution%20LP-3\(4\).docxas](https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Resolution%20LP-3(4).docxas)

6 Resolution LP.5(14) on the Provisional Application of the 2009 Amendment to Article 6 of the London Protocol (2019) available as Annex 2 in the report of the meeting LC 41/LP 14.

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the London Convention and Protocol (LC 41/LP 14) on 11 October 2019⁷. The governing bodies also encouraged 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.

The provisional application of the 2009 amendment now means that two or more countries can agree to export CO₂ for geological storage. However, to do so they must first deposit a formal declaration of provisional application with the Secretary-General of the International Maritime Organization (IMO), which provides the Secretariat for the London Convention and the London Protocol and is the depositary organization for the London Protocol. The countries/States concerned must also enter into an agreement or arrangement to confirm permitting responsibilities between the exporting and receiving countries consistent with the provisions of the Protocol⁸.

3. State of Play regarding the application of the amended London Protocol in the EU

Most EU Member States and EEA countries are Contracting Parties to the London Protocol, with the exception of Greece, Hungary, Malta, Poland and Portugal which are party to the London Convention only, and Austria, Czech Republic, Latvia, Liechtenstein, Lithuania, Romania and Slovakia that are currently not party to either treaty.

To date 10 States have formally ratified the 2009 Art. 6 Amendment Norway and UK (2011), the Netherlands (2014), Islamic Republic of Iran (2016), Finland (2017), Estonia (2019), Sweden (2020), Belgium, Denmark and the Republic of Korea (2022). France and Germany are in the process of ratification.

By July 2022, Norway, the Netherlands, Denmark and the Republic of Korea have also used the 2019 Resolution to deposit declarations of provisional application of the 2009 amendment to Article 6 to allow sub-seabed geological formations for CO₂ sequestration projects to be shared across national boundaries. Finland and Belgium are preparing such declarations.

On the 26. September 2022, Denmark and Belgium have signed the first bilateral arrangement on cross border transportation of CO₂ for the purpose of permanent geological storage.⁹

⁷ <https://www.imo.org/en/MediaCentre/SecretaryGeneral/Pages/CLOSING-REMARKS-AT-THE-END-OF-LC-41-LP-14.aspx>

⁸ IEAGHG, Exporting CO₂ for Offshore Storage – The London Protocol’s Export Amendment and Associated Guidelines and Guidance, 2021-TR02, April 2021.

⁹ See: <https://en.kefm.dk/news/news-archive/2022/sep/denmark-flanders-and-belgium-sign-groundbreaking-arrangement-on-cross-border-transportation-of-co2-for-geological-storage-> (accessed 30.9.22)

4. Overview London Protocol requirements in the context of the Legal Framework in the EEA

Requirements of the London Protocol ¹⁰	Legal Framework in the EEA	Guidance for additional bilateral arrangements for Parties to the London protocol
Type of arrangements/agreements among EEA Member States		
<i>“the export of carbon dioxide streams for disposal in accordance with Annex 1 may occur, provided that an agreement or arrangement has been entered into by the countries concerned”</i>	Art. 24 of Directive 2009/31/EC applies ¹¹ .	Before entering in additional arrangements parties to the London Protocol need to deposit declarations of provisional application to the IMO secretariat to allow provisional application of the 2009 amendment to Article 6.
The word "agreement" refers to a legally binding agreement, which between States could take the form, for example, of a memorandum of agreement or a treaty.	Art. 24 Directive 2009/31/EC applies.	Additional bilateral arrangements of Member State parties to the London Protocol with other EU MS and EEA partner countries only should be strictly limited to the residual issues not

¹⁰ As further described in the “GUIDANCE ON THE IMPLEMENTATION OF ARTICLE 6.2 ON THE EXPORT OF CO₂ STREAMS FOR DISPOSAL IN SUB-SEABED GEOLOGICAL FORMATIONS FOR THE PURPOSE OF SEQUESTRATION” published in the IMO publication “Carbon dioxide sequestration in sub-seabed geological formations under the London Protocol: 2016 Edition” (publication reference I546E).

¹¹ As regards the cross-border transport of CO₂ by other means than pipelines for the purpose of geological storage in a storage site permitted under the Directive 2009/31/EC ipso facto Art. 24 would apply, once the revised ETS Directive 2003/87/EC has entered into force. For the provisional interpretations that the Commission applies in concrete cases, see below.

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<p>An "arrangement" between States refers to something non-binding, such as a memorandum of understanding (MoU).</p>		<p>covered by EU law and they should not refer to the subject matters.</p>
<p><i>"A Contracting Party entering into such an agreement or arrangement shall notify it to the Organization."</i></p>	<p>N/A</p>	<p>The Member States parties to the London Protocol should notify to the IMO, in accordance with the amended Article 6(2) of the Protocol, that EU law and, in particular Directive 2009/31 and Directive 2003/87, are part of the relevant arrangements for these exchanges between EU Member States, jointly with <i>any additional bilateral arrangements concluded among MS on matters not contemplated by the two EU directives</i>. A similar notification must take place with respect to the EEA treaty as part of the relevant arrangement between EU Member States parties to the London Protocol and EEA countries.</p>
<p>Arrangements must be consistent with both the Protocol's provisions and those of applicable international law, such as customary international law of the sea, the United Nations Convention on the Law of the Sea (UNCLOS) and relevant regional agreements.</p>	<p>In principle, the CCS Directive is fully in line with the Protocol's provisions and those of applicable international law. EU Member States and EEA countries that are Contracting Parties to the London Protocol have to comply with both.</p>	<p>N/A</p>

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	<p>Similarly, the agreements/arrangements have to be fully consistent with EU/EEA law.</p>	
<p>The arrangements need to confirm and allocate permitting responsibilities as between the exporting and receiving country.</p>	<p>Art. 6-9, Art. 11, 13, 14 and Art. 21 of Directive 2009/31/EC apply to all EU Member States and all EEA countries.</p> <p>Pursuant to Article 18 of Directive 2003/87/EC, Member States shall make the appropriate administrative arrangements, including the designation of the appropriate competent authority or authorities, for the implementation of the rules of this Directive. Where more than one competent authority is designated, the work of these authorities undertaken pursuant to this Directive must be coordinated.</p> <p>Member States shall in particular ensure coordination between their designated focal point for approving project activities pursuant to Article 6 (1)(a) of the Kyoto Protocol and their designated national authority for the implementation of Article 12 of the Kyoto Protocol respectively designated in accordance with subsequent decisions adopted under the UNFCCC or the Kyoto Protocol.</p> <p>In addition, Art. 4, 5 and 6 of Directive 2003/87/EC applies and ensure that</p>	<p>The contact information of the relevant competent authorities and the contact points for the necessary permits under national law should be publicly available.</p>

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	<p>competent authorities shall issue greenhouse gas emissions permit granting authorisation to emit greenhouse gases if it is satisfied that the operator is capable of monitoring and reporting emissions.</p> <p>According to Article 10 of the Monitoring and Reporting Regulation 2018/2066, where a Member State designates more than one competent authority pursuant to Article 18 of Directive 2003/87/EC, it shall coordinate the work carried out by those authorities.</p>	
<p>Article 9.2 provides that a Contracting Party is responsible for the issuance of a permit where a CO₂ stream is loaded in its territory and where a vessel registered in its territory or flying its flag loads a CO₂ stream in the territory of a non-Contracting Party for purposes of export to other countries for disposal into a sub-seabed geological formation.</p> <p>Depending on the facts of a given export scenario, there could be several countries involved, and therefore the arrangement would need to reflect the appropriate permitting responsibilities of each.</p>	<p>Art. 4 to Art. 12 of Directive 2009/31/EC apply.</p> <p>In addition, Art. 4 of Directive 2003/87/EC applies. A valid greenhouse gas emissions permit from the relevant competent authority is necessary for the capture, transport or storage of CO₂ and therefore also for cross-border transport of captured CO₂ from exporting to importing countries.</p> <p>In this regard, the obligation to surrender allowances for the captured CO₂ is subject to the provisions of the ETS Directive, even if operationally handed over from one actor to another along the emerging cross-border transport and storage value chain. All emissions from the capture, transport or</p>	<p>The contact information of the relevant competent authorities and the contact points for the necessary permits under national law should be publicly available.</p>

	<p>storage of CO₂ originating from ETS installations, will be subject to monitoring and reporting under the respective activity listed in Annex 1 of the ETS Directive. The Commission has proposed that the emissions already covered under a different activity under the ETS will be excluded from the CCS activities. This can be the case, if after the revision of the ETS Directive, some emissions from the transport of CO₂ may fall under the maritime transport or road transport activities and therefore would be excluded from the scope of the activity “transport of greenhouse gases.</p> <p>As regards the transport means and as part of the ongoing revision of the ETS Directive, the Commission has proposed to extend the provision for transport of CO₂ for geological storage “by pipelines” to all means of transport.</p> <p>For concrete cases¹², the Commission, already today applies a broad interpretation so that the transfer of captured CO₂ to a ship or a truck does not prevent the right to subtract the CO₂ when it is later on transferred from the ship or the truck to a pipeline transport network or directly to a</p>	
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¹² Currently, two capture installations in Oslo and Brevik are allowed to deduct from its emissions any CO₂ intended for the offshore storage facility.

	<p>storage site. When that later transfer from the ship or truck to the network or storage site is completed, the capturing installation can subtract the CO₂ according to Article 49 (a) (ii) or (iii) of the Monitoring and Reporting Regulation 2018/2066.</p>	
<p>Types of carbon dioxide streams from carbon dioxide capture processes for sequestration</p>		
<p>In reference to the wastes listed in Annex 1 of the London Protocol that may be considered for dumping:</p> <p><i>“The wastes or other matter listed in paragraphs 1.4 and 1.7 may be considered for dumping, provided that material capable of creating floating debris or otherwise contributing to pollution of the marine environment has been removed to the maximum extent and provided that the material dumped poses no serious obstacle to fishing or navigation.”</i></p>	<p>Art. 17 (2) in combination with Articles 9(7) and 8(1)(a) of Directive 2009/31/EC applies.</p>	<p>The public information should include reference to relevant national law(s) of the EEA countries concerned that implement Art. 17(2) of Directive 2009/31/EC as well as the relevant storage permits issued by the competent authorities.</p>
<p><i>“Notwithstanding the above, materials listed in paragraphs 1.1 to 1.8 containing levels of radioactivity greater than de minimis (exempt) concentrations as defined by the IAEA and</i></p>	<p>Art. 12 and Art. 17 (2) in combination with Articles 9(7) and 8(1)(a) of Directive 2009/31/EC apply.</p>	<p>The public information should include references to relevant national law(s) of the EEA countries concerned that implement Art. 12 and 17(2) of Directive 2009/31/EC, as well</p>

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<p><i>adopted by Contracting Parties, shall not be considered eligible for dumping; provided further that within 25 years of 20 February 1994, and at each 25 year interval thereafter, Contracting Parties shall complete a scientific study relating to all radioactive wastes and other radioactive matter other than high level wastes or matter, taking into account such other factors as Contracting Parties consider appropriate and shall review the prohibition on dumping of such substances in accordance with the procedures set forth in article 22.”</i></p>		<p>as the relevant storage permits issued by the competent authorities.</p>
<p>“Carbon dioxide streams referred to in paragraph 1.8 may only be considered for dumping, if:</p> <p>.1 disposal is into a sub-seabed geological formation; and</p> <p>.2 they consist overwhelmingly of carbon dioxide. They may contain incidental associated substances derived from the source material and the capture and sequestration processes used; and</p> <p>.3 no wastes or other matter are added for the purpose of disposing of those wastes or other matter.”</p>	<p>Art. 12 of Directive 2009/31/EC applies.</p>	<p>The public information should include references to relevant national law(s) of the EEA countries concerned that implement Art. 12 of Directive 2009/31/EC.</p>

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5. Additional topics identified in regard CO₂ import/export, reporting and liabilities under the EU ETS and under UNFCCC rules

Topics identified	Legal Framework in the EEA	Guidance regarding the additional topics identified in regard CO₂ import/export in the EU
Exporting captured CO ₂ to an EEA country	<p>CO₂ captured by an ETS installation can be transferred to another ETS installation for transport or storage. From the ETS point of view, it makes no difference whether this transfer crosses national borders or not (as long as it remains in the ETS).</p> <p>When preparing their National Energy and Climate Plans (NECP), in particularly with regard to indicative national energy efficiency contribution, Member States may take into the development of carbon capture and storage (Art. 6(2)(d) of Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action).</p> <p>In accordance with Annex I, NECPs shall include, where available, national objectives, including long-term 2050 targets for deployment of low-carbon technologies, including for decarbonising energy and carbon-intensive industrial sectors, and where applicable, for related</p>	N/A

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	<p>carbon transport and storage infrastructure. Biennially, Member States shall report on progress in implementations of these objectives, in the progress report under Art. 17 of Governance Regulation.</p> <p>The existing IPCC methods¹³ refer to geological storage (rock formations deep underground). The latter also include deep saline formations. In terms of UNFCCC inventories¹⁴, CO₂ captured should be accounted at the place where it is captured; which often corresponds to the place where it would otherwise be emitted.</p> <p>In the capture/export country, emissions (and reductions) associated with CO₂ capture should be reported under the IPCC sector in which capture takes place (e.g. Industrial Activities) in Table 1.C.</p> <p>There are no specific IPCC guidelines with regard to export transactions pertaining to captured CO₂ to be geologically stored.</p>	
Importing captured CO ₂ from an EEA country	In principle, imported CO ₂ which is permanently stored in line with Directive 2009/31/EC in an ETS installation, does not	N/A

¹³ See in particular chapter 5 of the IPCC Special Report on Carbon Dioxide Capture and Storage at <https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/>

¹⁴ <https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories/>

	<p>need to be reported as emission in the importing country. Under the ETS the emission would be deducted from the original ETS installation that would otherwise have emitted them, and there is no impact on the emissions of the ETS installation (storage installation) that stores them unless they leak.</p> <p>Only in the unlikely case of CO₂ leakage from a storage site, the relevant emissions will have to be recorded by the ETS storage installation in the importing country where the storage site is located.</p> <p>However, Member States may take account of the development of carbon capture and storage in their integrated national energy and climate plan as regards the indicative national energy efficiency contributions to the Union target; and shall include national objectives, for carbon transport, use, and storage infrastructure in their integrated national energy and climate plans and progress reports, where available.</p> <p>Art. 6.2 (d), 25(c), Annex I of Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action applies.</p>	
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	<p>For the UNFCCC inventories, CO₂ emissions should only be reported provided that the CO₂ is released in the atmosphere on the territory of the relevant EEA country. If the CO₂ is imported and permanently stored in line with Directive 2009/31/EC, there is no CO₂ release that would have to be reported.</p> <p>However, any emissions stemming from the transport, injection or leakage of CO₂ from the storage site should be reported in Table 1.C. Inventory compiler will need sufficient information from each storage site to assess annual emissions in accordance with the IPCC guidelines. Any ETS installation (storage operator) will have in place an emissions monitoring plan, approved by the Competent Authority, which forms part of its GHG emission permit, and will provide an emissions report to which the relevant inventory compiler should have access.</p>	
<p>Transporting captured CO₂ from exporting to importing countries</p>	<p>When preparing their National Energy and Climate Plans (NECT), in particularly with regard to indicative national energy efficiency contribution, Member States may take into the development of carbon capture and storage (Art. 6(2)(d) of Regulation (EU) 2018/1999 on the</p>	<p>The information about exports of captured CO₂ could be included in the relevant National Energy and Climate Plans (NECT) of the EEA countries concerned.</p>

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	<p>Governance of the Energy Union and Climate Action).</p> <p>In accordance with Annex I, NECPs shall include, where available, national objectives, including long-term 2050 targets for deployment of low-carbon technologies, including for decarbonising energy and carbon-intensive industrial sectors, and where applicable, for related carbon transport and storage infrastructure. Biennially, Member States shall report on progress in implementations of these objectives, in the progress report under Art. 17 of Governance Regulation.</p>	
<p>Liability for emissions and potential leakages of captured CO₂ during the cross-border transport of captured CO₂ from exporting to importing countries:</p>	<p>Under the ETS¹⁵, an installation can deduct from its emissions the CO₂ not emitted in atmosphere and transferred to:</p> <ul style="list-style-type: none"> • a capture installation for the purpose of transport and long-term geological storage in a storage site permitted under Directive 2009/31/EC; • a transport network with the purpose of long-term geological storage in a storage site permitted under Directive 2009/31/EC; 	<p>The relevant competent authorities of the EEA countries concerned should foresee the exchange of emissions monitoring plans and reports of relevant ETS installations.</p>

¹⁵ Information available in the Guidance Document 1 - https://ec.europa.eu/clima/system/files/2022-02/gd1_guidance_installations_en_0.pdf, pages 90-91.

	<ul style="list-style-type: none">• a storage site permitted under Directive 2009/31/EC for the purpose of long-term geological storage. <p>In order to make the calculation consistent in the case of a “CCS value chain” (i.e. several installations together performing the capture, transport and geological storage of CO₂), the receiving installation has to add that CO₂ to its emissions, before it may again subtract the amount transferred to the next installation or to the storage site.</p> <p>Each ETS installation (operator) will have in place an emissions monitoring plan, approved by the Competent Authority, which forms part of its GHG emission permit. The operator will also need to submit an annual verified emissions report be it from operations or from leakages during the processing or the transport of CO₂, if any.</p> <p>Art. 20 (2), 20 (3), 49 and Annex IV sections 21, 22 and 23 of Commission Implementing Regulation (EU) 2018/2066 on the monitoring and reporting of greenhouse gas emissions (MRR); as well as Art. 10(1)(p) of Commission Implementing Regulation (EU) 2018/2067</p>	
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	<p>on the verification of data and on the accreditation of verifiers, apply.</p> <p>The liability for emissions caused by the operation of CO₂ capture, transport or storage in the CO₂ value-chain is therefore transferred from one ETS installation to the other, without regard to the EEA country they are located in.</p>	
<p>Inventory accounting of imported and exported CO₂</p>	<p>In the context of the national UNFCCC inventories, parties should report their annual net emissions. In addition, parties in their Common Reporting Tables^[1] should report as “Memo/Information Items” the following differentiated figures:</p> <ul style="list-style-type: none"> • <i>Total amount captured for storage</i> • <i>Total amount of imports for storage</i> • <i>Total amount of exports for storage</i> • <i>Total amount of CO₂ injected at storage sites</i> • <i>[CO₂ injected for operational usage]</i> • <i>Total leakage from transport, injection and storage</i> 	<p>Information exchanges between the inventory compilers of the respective CO₂ import and export EEA countries would allow for alignment of the respective amounts and to avoid cross-border double-counting.</p>

^[1] In table 1.C, see <https://unfccc.int/documents/311076>

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	<p>This accounting framework ensures that importing parties can transparently differentiate the “<i>Total amount of [CO₂] imports for storage</i>” as an information item, given that for these amounts there were no emissions (and subsequent capture) in the importing country, and hence no impact on the emission total. Conversely exporting parties can subtract their “<i>Total amount of [CO₂] exports for storage</i>” from their net emission calculations.</p> <p>In addition, leakage from transport, injection and storage is reported by the relevant ETS installation.</p>	
<p>Transboundary cooperation</p>	<p>Art, 24 of Directive 2009/31/EC does not apply to CO₂ storage sites located in only one MS permitted by a responsible competent authority. In addition, the requirements of Article 18 do not apply to CO₂ transport, but only to CO₂ storage as permitted by a responsible competent authority.</p> <p>In the EU, any transport of CO₂ to be credited under the ETS as geologically stored – cross-border or not – has to be performed by an operator that holds a valid permit from a competent authority located in a Member State.</p>	<p>The competent authorities responsible for the relevant CO₂ transport and/or storage operations should keep each other informed about the hand-over agreed between the relevant operators.</p>

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Dispute settlement	<p>Art. 22 of Directive 2009/31/EC applies.</p> <p>Member States have in place dispute settlement arrangements for disputes relating to access to transport and storage. As regards cross-border disputes, the jurisdiction of the relevant installation(s) determines the Member State responsible.</p>	<p>The public information about the relevant component authorities should also allow operators to contact dispute settlement procedures under Art. 22 of Directive 2009/31/EC of the EEA countries concerned.</p>
Transparency	<p>The Competent Authorities under Directive 2009/31/EC of Parties to the London protocol are encouraged to share any additional bilateral arrangements concluded with their colleagues in other EEA countries.</p>	<p>Any additional arrangement concluded and notified to the IMO should be made public.</p>
Information sharing	<p>The Competent Authorities under Directive 2009/31/EC and Directive 2003/87/EC of the EEA countries concerned are working together at the EU level.</p>	<p>The relevant Competent Authorities of the EEA countries should foresee regular exchanges of information, including within the auspice of the Information Exchange Group of the CCS Directive.</p>

Treatment of biogenic CO₂ in the context of CO₂ transport and storage		
Topics identified	Legal Framework in the EEA	Guidance regarding the additional topics identified in regard CO₂ import/export in the EU
Liability related to capturing, transporting and storing biogenic CO ₂	<p>The ETS covers biomass emissions. If such emissions result from sustainable biomass they count as zero and no allowances need to be surrendered (i.e. zero-rated) if they are emitted to the atmosphere. Conversely, emissions resulting from non-sustainable biomass are treated like emissions from fossil fuels. This applies to each ETS installation in accordance with their approved emissions monitoring plans.</p> <p>In addition, installations using 100% biomass are excluded from the ETS.</p>	N/A
Liability related to storing mixtures of biogenic and fossil CO ₂	As part of the ongoing revision of the Directive 2003/87/EC the Commission has proposed to be empowered to adopt rules on the order of CO ₂ storing when the stream is a mix of zero-rated and non-zero rated CO ₂ .	N/A
Reporting differences between ETS and UN inventories	The UN framework and the EU ETS are aligned in that CO ₂ permanently stored (in an ETS installation) is credited as an “emission not emitted” in the context of the net emission of relevant	N/A

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	parties/Member States. This is the case, regardless whether or not the source emissions of the CO ₂ capturing installation would be zero-rated or not under the ETS.	
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6. Conclusion and next steps

There is a substantive alignment between the requirements of the London Protocol and the legal framework in place in the EEA for the capture, cross-border transport and safe geological storage of carbon dioxide between EU Member States and EEA countries.

Therefore, Directive 2009/31 and Directive 2003/87, which bind all the Member States, can act as a relevant “arrangement” between the Parties in the meaning of Art. 6(2) of the London Protocol. Similarly, the EEA treaty and the incorporation of the two directives concerned in the EEA legal regime provides the necessary arrangement with EEA partners.¹⁶

Member States that are party to the London protocol could conclude additional bilateral arrangements with other EU Member States and EEA partner countries **only on issues that are not covered by the directives**¹⁷. These additional bilateral arrangements should be strictly limited to the residual issues not covered by EU law and they should not refer to the subject matters covered by EU rules¹⁸.

However, the failure to have such arrangements in place cannot be imputed to the undertakings that request a permit for exploration or storage, as it is something that must be concluded by the Member States. The undertakings for their part should have the full benefit of the transposed directives, irrespective of possible delays in the conclusion of additional arrangements on matters required by the London Protocol and not covered.

These benefits in particular include, that based on Art. 21 (4) of Directive 2009/31 *Member States shall take the measures necessary to ensure that the operator refusing access on the grounds of lack of capacity or a lack of connection makes any necessary enhancements as **far as it is economic to do so or when a potential customer is willing to pay for them**, provided this would not negatively impact on the environmental security of transport and geological storage of CO₂.*

To ensure transparency for the emerging market of cross-border transport and safe geological storage of CO₂, the Commission services would consider establishing a **public repository** listing per Member State:

¹⁶ Moreover, the London Protocol also foresees in its Article 12 the possibility to regulate the protection of the marine environment through a regional agreement, consistent with the Protocol, in order to enhance regional cooperation for the prevention, reduction and, where practical elimination of pollution caused by dumping or incineration at sea of wastes or other matter.

¹⁷ For example, see the Memorandum of Understanding signed between Denmark and Belgium on cross border transportation of CO₂ for the purpose of permanent geological storage:
<https://en.kefm.dk/Media/638000596525014193/Bilateral%20arrangement%20DK-BE.pdf>

¹⁸ The EU Member States parties to the London Protocol should notify to the IMO, in accordance with the amended Article 6(2) of the Protocol, that EU law and, in particular Directive 2009/31 and Directive 2003/87, are part of the relevant arrangements for these exchanges between EU Member States, jointly with any additional bilateral arrangements concluded among MS on matters not contemplated by the two EU directives. A similar notification must take place with respect to the EEA treaty as part of the relevant arrangement between EU Member States parties to the London Protocol and EEA countries.

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- The names and contact details of the relevant competent authorities for CCS storage, ETS installations and UNFCCC inventories in the Member State.
- The name and contact details for relevant undertakings of a Single Point of Contact for CO₂ export.
- The references to national legislation transposing the relevant parts of Directive 2009/31/EC and Directive 2003/87/EC
- [*for parties of the London Protocol*] The date of deposition of the declaration of provisional application of the 2009 amendment to Article 6 of the London Protocol to the IMO secretariat.
- [*for parties of the London Protocol*] The full text of any additional bilateral arrangement notified to the IMO].