



EU CASE STUDIES PROJECT

Analysis of the Extent of Member States' Discretion in the implementation of the CCS Directive

<p><b>Subject / Addressees</b></p>	<p><b>Mandatory Requirement</b> (No scope for interpretation)</p> <p>(We are interested in knowing what national legal provisions reflect these obligations (e.g. is it a 'copy out'? Or are there any significant differences?)</p>	<p><b>Discretionary requirement</b> (Directive grants discretion on whether to implement the requirement; on how to implement it; or on the timeframe for implementation)</p> <p>(We are interested in knowing how the national legislation handles such discretion)</p>	<p><b>Ambiguity in the Directive</b> (The Directive is silent or unclear on some elements)</p> <p>(We are interested in knowing whether the national legislation clarifies such ambiguity in any way)</p>
<p><b>Scope and Prohibitions</b> (Article 2)</p>	<p>Application of the Directive limited to geological storage in:</p> <ul style="list-style-type: none"> <li>- the territory of MS</li> <li>- their Exclusive Economic Zone</li> <li>- their Continental Shelf</li> </ul> <p>Prohibition of storage of CO<sub>2</sub> in the water column.</p> <p>Directive not applicable to activities with a total intended storage below 100kt for the purpose of R&amp;D and testing of new products and processes.</p> <p>Enhanced Hydrocarbon Recovery –EHR- (EOR, EGR) 'is not in itself included in the scope of the Directive', unless EHR is combined with geological storage of CO<sub>2</sub>. (See Preamble para.20, BUT not included in the text of the Directive).</p>		
<p><b>Selection of Storage Sites</b> (Article 4)</p> <p>Addressed to: MS</p>	<p>Assessment of the storage capacity available in whole or part of their territory, including for exploration purposes (limited to MS willing to undertake CCS).</p> <p>Suitability of the storage site to be determined</p>	<p>MS are granted the right to determine the areas from which storage sites may be selected.</p> <p>MS are granted the right not to allow any storage in parts or in the whole of one MS's</p>	<p>Is there any clarification in the national legislation on the criteria for selection?</p> <p>The definition of 'storage complex' is difficult, yet fundamental for both the limit of permitted geographic area and implications for the</p>



	<p>through characterisation and assessment of the potential storage complex and surrounding area, following Annex I criteria.</p> <p>A geological formation shall <u>only</u> be selected as a storage site, if under the proposed conditions of use there is:</p> <ul style="list-style-type: none"> <li>- no significant risk or leakage; and</li> <li>- no significant environmental and human health risks.</li> </ul>	<p>territory.</p>	<p>extent of liability due to leakage.</p> <p>Definition of 'significant risk' (Article 3 (18): a combination of a probability of occurrence of damage and a magnitude of damage that cannot be disregarded <u>without calling into question the purpose of this Directive for the storage site concerned</u>' (Article 2).</p> <p>What is the purpose of the Directive? See Preamble and Article 1.</p> <p>In the case MS decide not to allow CCS activities in their territory, does the Directive still need to be entirely transposed?</p>
<p><b>Exploration Permits</b> (Article 5)</p> <p>Addressed to: MS</p>	<p>No exploration without exploration permit will be allowed.</p> <p>Procedures for granting exploration permit have to be open to all entities possessing the <u>necessary capacities</u> on the basis of objective, published and non-discriminatory criteria.</p> <p>Duration of the permit limited to the period necessary to carry out the exploration for which it is granted.</p> <p>Exploration permit applicable to a limited volume area.</p> <p>No conflicting uses of the complex are permitted, during the period of validity of the permit.</p> <p>Permit only covers exploration of the potential storage complex.</p>	<p>Exploration activities are not mandatory under the Directive. MS have discretion in deciding whether they are needed in order to generate the information necessary for the selection of the storage site.</p> <p>Monitoring of injection test to be included in the permit, where appropriate.</p> <p>Duration of a permit can be extended by the MS, when:</p> <ul style="list-style-type: none"> <li>- the stipulated duration is insufficient, and</li> <li>- the exploration has been performed in accordance with the permit.</li> </ul>	<p>No definition of 'necessary capacities'.</p> <p>No indication of which information must be included in the application for an exploration permit.</p> <p>No definition of 'conflicting uses'.</p> <p>As monitoring of injection test may be included in the permit <u>where appropriate</u>, what are the criteria for determining such appropriateness?</p>
<p><b>Storage Permits</b> (Article 6)</p> <p>Addressed to: MS</p>	<p>No storage site will be operated without a storage permit.</p> <p>Only one operator for storage site.</p>		<p>No definition of 'conflicting uses'.</p> <p>No definition of 'necessary capacities'.</p> <p>The definition of 'operator' (Article 3(10),</p>



	<p>No conflicting uses permitted on the site.</p> <p>Procedures for granting storage permit must be open to all entities possessing the <u>necessary capacities</u> on the basis of objective, published and transparent criteria.</p> <p>Priority for the granting a storage permit to be given to the holder of an exploration permit, under certain conditions.</p>		<p>although widely used in EU law, may differ between MS which have different traditions with respect to corporate law. This aspect is important with respect to the sole right to operate a storage site and liability implications.</p>
<p><b>Applications for storage permits</b> (Article 7)</p> <p>Addressed to: Applicants / MS</p>	<p>Application for a storage permit has to contain <u>at least</u> the information listed in the Directive.</p>	<p>Member States could require more information in order to issue the permit.</p>	<p>The minimum information contains unclear terms such as 'technical competence', 'measure to prevent significant irregularities'.</p>
<p><b>Conditions for Storage permits</b> (Article 8)</p> <p>Addressed to: Competent authority (CA)</p>	<p>Storage permit can only be issued by the CA when it is satisfied that the 3 conditions listed in the Directive are met and it has considered any opinion of the European Commission on the draft permit previously issued.</p>		<p>May the CA require additional conditions to be met?</p> <p>Due to a lack of definition in this provision, there is scope for interpretation of the 3 conditions by the MS (e.g. what other relevant requirement of Community legislation need to be met? How to assess financial soundness and technical competence of the operator? What are the relevant pressure interactions?)</p>
<p><b>Contents of storage permits</b> (Article 9)</p> <p>Addressed to: Competent authority (CA)</p>	<p>Permit shall contain <u>at least</u> some information.</p>	<p>MS may require more information to be included in the storage permit.</p>	<p>Due to a lack of definition in this provision, there is scope for interpretation by MS (e.g. what are the boundaries of a storage complex? Unclear composition requirements of the CO<sub>2</sub> stream).</p>
<p><b>Commission Review of Draft permit</b> (Article 10)</p> <p>Addressed to: MS/ European Commission/Competent Authority (CA)</p>	<p>Within 1 month from receipt, MS shall make available to the European Commission :</p> <ul style="list-style-type: none"> <li>- the permit applications;</li> <li>- other related material that shall be taken into account by the CA when making the decision on the award of the storage permit.</li> </ul> <p>MS shall inform the European Commission of</p>	<p>CA can diverge from European Commission decision, but needs justified reasons.</p>	



	<p>all draft storage permit/any other material taken into consideration for adoption of draft decision.</p> <p>Procedure before the Commission, non-binding opinion within 4 months from receipt of draft permit.</p> <p>Final decision of the CA</p>		
<p><b>Changes, Review, update and withdrawal of storage permits</b> (Article 11)</p> <p>Addressed to : Operator/ competent authority (CA)</p>	<p>CA to be informed of any changes planned in the operation of the storage site, including changes concerning the operator.</p> <p>If changes occur, update and review of the permit are required, where appropriate.</p> <p>No substantial changes can be implemented without a new or updated storage permit.</p> <p>CA shall review, update or withdraw permit in certain circumstances.</p> <p>After withdrawal, CA shall:</p> <ul style="list-style-type: none"> <li>a) issue a new permit; or</li> <li>b) close the storage site</li> </ul> <p>Until new permit has been issued, CA shall temporarily take over;</p> <ul style="list-style-type: none"> <li>- all legal obligations relating to acceptance criteria where the CA decides to continue CO<sub>2</sub> injection, monitoring and corrective measures;</li> <li>- the surrender of allowances under the ETS Directive;</li> <li>- preventive and remedial actions under the ELD.</li> </ul> <p>If the storage site is closed, the CA will be responsible for:</p> <ul style="list-style-type: none"> <li>- monitoring and corrective measures under the CCS Directive;</li> <li>- all obligations relating to surrender</li> </ul>		<p>What is a substantial change?</p>



	<p>allowances under the ETS in the case of leakage;</p> <ul style="list-style-type: none"> <li>- preventive and remedial actions under the ELD.</li> </ul> <p>CA shall recover the costs from the former operator, drawing upon the financial security.</p>		
<p><b>CO<sub>2</sub> stream acceptance criteria and procedure</b> (Article 12)</p> <p>Addressed to: MS</p>	<p>Stream purity ('overwhelmingly' consisting of CO<sub>2</sub>).</p> <p>No waste and other matter may be added.</p> <p>It may contain incidentally substances from the source, capture or injection process and trace substances used to assist monitoring and verifying CO<sub>2</sub> migration. They must be below certain levels.</p> <p>The EU Commission will adopt, IF APPROPRIATE, Guidelines to 'help identify the conditions applicable on a case by case basis to respect the criteria' set in the Directive.</p> <p>MS shall ensure that the operator:</p> <ul style="list-style-type: none"> <li>- only accepts and injects CO<sub>2</sub> streams which are in conformity with the requirements of Article 8(3)(a) and</li> <li>- keeps a register.</li> </ul>		<p>What percentage of CO<sub>2</sub> will make it 'overwhelmingly' consisting of CO<sub>2</sub>?</p> <p>What is the status of the European Commission Guidance Document in national law (e.g. is there a provision that the CA 'must have regard to the Guidance')?</p>
<p><b>Monitoring</b> (Article 13)</p> <p>Addressed to: MS</p>	<p>MS shall ensure that operator carries out monitoring of injection facilities, storage complex and where appropriate surrounding environment in view of specific purposes set by the Directive.</p> <p>Monitoring to be based on monitoring plan designed following specific requirements. Plan to be updated at least every 5 years.</p>		<p>Can the MS require more stringent monitoring activities?</p> <p>Due to a lack of/ unclear definition in this provision, there is scope for interpretation by MS (e.g. unclear definition of 'significant irregularities' (Article 3(17)); broad definition of corrective measures (Article 3(19)); what is the definition of 'significant adverse effects' or 'users of the surrounding biosphere'? What is the threshold to assess the effectiveness of a</p>



			corrective measure?)
<p><b>Reporting by the operator</b> (Article 14)</p> <p>Addressed to: Operator/ Competent Authority (CA)</p>	<p>During the operation phase, the operator shall report to the CA on several aspects in any event at least once a year.</p>	<p>The system of inspections can be established 'at a frequency to be determined by the competent authority'.</p> <p>The operator can be required to report on 'any other information the CA considers relevant for the purposes of assessing compliance with storage permit conditions and increasing the knowledge of CO<sub>2</sub> behaviour in the storage site'.</p>	
<p><b>Inspections</b> (Article 15)</p> <p>Addressed to: MS/competent authority (CA)</p>	<p>System of routine and non-routine inspections to be organised by the CA for all storage complexes.</p> <p><u>Routine Insp</u>: at least every year until 3 years after closure and every 5 years until transfer of responsibility to competent authority.</p> <p><u>Non-Routine Insp</u>: Ad-hoc basis when certain situations occur.</p> <p>CA will prepare a report on the results of each inspection to be communicated to the operator and made publicly available.</p>	<p>List of activities to be included within the inspection is indicative.</p>	<p>How to comply with this requirement?</p> <p>Due to a lack of definition, especially for Non-Routine Inspections, there is scope for interpretation by MS (e.g., what is the threshold to be reached before the CA is required to carry out Non-Routine Insp? What is the definition of 'insufficient compliance'?)</p>
<p><b>Measures in case of leakage or significant irregularities</b> (Article 16)</p> <p>Addressed to: MS/competent authority (CA)</p>	<p>MS shall ensure that in the event of leakage or significant irregularities, the operator immediately:</p> <ul style="list-style-type: none"> <li>- notifies the CA and</li> <li>- takes necessary corrective measures, on the basis of the corrective measures plan.</li> </ul> <p>CA must take measure if operator fails to do so. CA will recover the costs from the operator.</p> <p>Corrective measures taken <u>as a minimum</u> on the basis of the corrective plan submitted by the operator.</p>	<p>CA may at any time require the operator to take corrective measures/ take the measures itself. CA will recover the costs from the operator.</p> <p>More stringent measures are possible.</p>	<p>Has the operator the right to appeal? To whom?</p> <p>How would be cost be recovered in practice?</p> <p>How can we ensure that competing claimants do not prevail?</p> <p>If EHR activities are combined with geological storage of CO<sub>2</sub>, the Directive will apply, <u>BUT</u> the provisions concerning leakage 'are not intended to apply to quantities of CO<sub>2</sub> released from surface installations which do not exceed what is necessary in the normal process of</p>



			<p>extraction of hydrocarbon, and which do not compromise the security of the geological storage or adversely affect the surrounding environment'. (Preamble 20, <u>BUT</u> not included in the text of the Directive).</p> <p>These leakages will be covered by the ETS Directive.</p> <p>The interpretation of the circumstances in which provisions concerning leakages would/would not apply to EHR seems ambiguous in the absence of further clarifications on technical aspects (e.g. what is 'necessary' in the normal process of extraction of hydrocarbon? How to assess that geological storage is compromised?).</p>
<p><b>Closure and post-closure obligations</b> (Article 17)</p> <p>Addressed to: Operator/ Competent Authority</p>	<p>Conditions under which a storage site shall be closed :</p> <ul style="list-style-type: none"> <li>- if all relevant conditions are met upon request of the operator and authorisation from the CA.</li> </ul> <p>Responsibility of the operator between closure and transfer for:</p> <ul style="list-style-type: none"> <li>- monitoring, reporting and corrective measures under the CCS Directive;</li> <li>- all obligations relating to surrender allowances under the ETS in the case of leakage;</li> <li>- preventive and remedial actions under the ELD;</li> <li>- sealing of storage site and removal of injection infrastructure.</li> </ul> <p>Post closure plan required.</p> <p>If closure is due to withdrawal of permit, CA will take over to operator's post closure obligations (see above).</p> <p>CA shall recover cost from the operator</p>		<p>Can MS establish additional circumstances in which site closure can be allowed / refused?</p> <p>Can MS require more conditions to be met? No reference to existing national / EU laws which already include criteria for site closure with respect to any other industrial activities.</p> <p>How to ensure that the costs will be recovered?</p>



	<p>including by drawing upon the financial security.</p>		
<p><b>Transfer of Responsibility</b> (Article 18) Addressed to: operator/ competent authority/MS</p>	<p>Transfer is possible when a storage site has been closed because:</p> <ul style="list-style-type: none"> <li>- all relevant conditions stated in the permit have been met or</li> <li>- the operator has been authorised by the CA.</li> </ul> <p>Liability is transferred for:</p> <ul style="list-style-type: none"> <li>- all legal obligations relating to monitoring and corrective measures under the CCS Directive</li> <li>- surrender allowances under the ETS Directive</li> <li>- preventive and remedial actions under the ELD.</li> </ul> <p>Conditions for transfer of responsibility:</p> <ul style="list-style-type: none"> <li>- all available evidence shows that CO<sub>2</sub> is completely and permanently contained</li> <li>- Minimum period has elapsed</li> <li>- Financial obligations have been fulfilled</li> <li>- Site has been sealed and injection facilities removed.</li> </ul> <p>Operator's report to CA proving the complete and permanent containment requirement.</p> <p>Report shall include some aspects (i. conformity to model, ii. absence of any detectable leakage, iii. evolution towards long-term stability) as a minimum.</p> <p>Draft decision for transfer to be issued by CA. Commission to be informed.</p> <p>MS to make available to the Commission :</p> <ul style="list-style-type: none"> <li>- the reports;</li> <li>- any other related material</li> </ul>	<p>Transfer upon CA initiative/ operator request.</p> <p>Default minimum period of 20 years before transfer is established by the Directive, although CA may allow the transfer before that period 'if it is convinced that all available evidence indicates that the stored CO<sub>2</sub> will be completely and permanently contained.</p> <p>Transfer can only occur when the CA is satisfied that the conditions are met.</p> <p>The CA can require the operator to demonstrate additional elements in the report documenting permanent and complete containment.</p> <p>Cases of Fault:</p> <ul style="list-style-type: none"> <li>- deficient data;</li> <li>- concealment of relevant information</li> <li>- negligence</li> <li>- wilful deceit</li> <li>- failure to exercise due diligence.</li> </ul>	<p>Can MS require more conditions to be met in order to proceed with the transfer?</p> <p>What is the relevant level of scientific evidence required for the CA to be 'convinced' that all available evidence indicates that the stored CO<sub>2</sub> will be completely and permanently contained?</p> <p>Due to a lack of definition, there is scope for interpretation by MS (e.g. definition of 'all available evidence', definition of 'absence of any detectable leakage', situation of long-term stability').</p> <p>Are the cases of fault an exhaustive or indicative list? Or are these cases just a minimum requirement?</p> <p>Clarifications on the assessment of the conditions for transfer/ cases of fault is hoped to be provided by the European Commission's Guidance Documents.</p> <p>Other liabilities to be taken into account:</p> <ul style="list-style-type: none"> <li>- common law/civil law</li> <li>- Statutory liabilities</li> <li>- Contractual liabilities</li> <li>- Tort law.</li> </ul> <p>No consideration of risks linked to the escalating price of carbon.</p>



	<p>considered for the decision within 1 month.</p> <p>Commission to issue a non binding decision within 4 months.</p> <p>Final decision to be taken by the CA.</p> <p>After transfer, routine inspections shall cease and monitoring may be reduced, unless leakage or significant irregularities are detected.</p> <p>In case of fault, the CA shall recover the cost incurred after the transfer.</p> <p>If permit was withdrawn for specific reasons, transfer of responsibility 'shall be deemed to take place if and when all available evidence indicates that the stored CO<sub>2</sub> will be completely and permanently contained' and after sealing etc.</p>		
<p><b>Financial Security</b> (Article 19)</p> <p>Addressed to: MS/CA/Operators</p>	<p>MS shall ensure that proof of adequate provisions of financial security is established at the time of application.</p> <p>Financial Security is intended to ensure that:</p> <ul style="list-style-type: none"> <li>- all obligations arising under the permit and</li> <li>- any obligations arising under the ETS Directive</li> </ul> <p>can be met.</p> <p>Financial Security to be valid and effective before commencement of injection, and remain valid and effective after closure until responsibility is transferred and after the withdrawal of the permit until a new storage permit is issued or the site is closed.</p> <p>Financial Security to be periodically adjusted.</p>	<p>Financial Security or any other equivalent to be established on the basis of arrangement to be decided by the CA.</p>	<p>No definition of what 'financial security or any other equivalent' means.</p> <p>No indication of the criteria/ the type/amount/ duration/ conditions for release/ possible exclusions.</p> <p>Due to a lack of definition, there is scope for interpretation by the MS (e.g. how will CA verify validity and robustness of financial security? Broad and undefined coverage of financial security ('all obligations...'; any obligation..)).</p> <p>Clarification to be provided by the European Commission's Guidance Document</p>



<p><b>Financial Mechanism</b> (Article 20) Addressed to: MS/Operator</p>	<p>Operator to make financial contribution available to the CA before transfer of responsibility.</p> <p>Contribution shall:</p> <ul style="list-style-type: none"> <li>- take into account criteria referred in annex I</li> <li>- take into account elements linked to the history of storing CO<sub>2</sub> relevant to determining the post-transfer obligations</li> <li>- cover AT LEAST the anticipated cost of monitoring for 30 years.</li> </ul>	<p>Financial Mechanism to be established on the basis of arrangements to be decided by the MS.</p> <p>MS can decide this contribution to cover monitoring for a period longer than 30 years.</p> <p>Use of the financial contribution MAY cover the costs borne by the CA after the transfer to ensure that CO<sub>2</sub> is completely and permanently contained.</p>	<p>No indication of the criteria/ the type/amount/ duration/ conditions for release.</p> <p>Can MS add more circumstances?</p> <p>Complete and permanent containment of CO<sub>2</sub> is a mandatory condition for transfer of liability to the MS (see Article 18). Therefore, failure of this condition and the consequent need to bear the costs of achieving it by using the financial mechanism could call into question the adequacy of the transfer approval decision in the first place.</p> <p>Clarification might be provided by the European Commission's Guidance Documents.</p>
<p><b>Access to transport network and storage sites</b> (Article 21) Addressed to: MS</p>	<p>MS shall take all necessary measures to ensure that potential users are able to obtain access to transport network and to storage sites.</p> <p>Criteria and objectives to be taken into account by MS are provided within the Directive.</p> <p>Transport network operators may refuse access on ground of lack of capacity provided they give 'duly substantiated reasons'.</p> <p>MS shall take all necessary measures to ensure that operator refusing access makes 'any necessary enhancement (as far as economic to do so/when potential customers are willing to pay) provided no impact on environment.</p>	<p>'All necessary measures' to be decided by the MS'.</p>	<p>What is the adequate legal framework for risk allocation, liability and financial security associated with the transport network for CO<sub>2</sub> ?</p> <p>Due to a lack of definition, there is scope for interpretation by MS (e.g. what is the definition of 'lack of capacity'? What is a 'duly substantiated reason'?).</p>
<p><b>Dispute Settlement</b> (Article 22) Addressed to: MS</p>	<p>MS shall ensure that they have in place dispute settlement arrangements.</p>		

<p><b>Competent Authority</b> (Article 23) Addressed to: MS</p>	<p>MS shall establish a competent authority.</p>	<p>...or authorities.</p>	
<p><b>Transboundary cooperation</b> (Article 24) Addressed to: Competent Authority (CA)</p>	<p>CA shall jointly meet requirements of CCS Directive and other relevant legislation, in the case of transboundary transport, transboundary storage sites or transboundary storage complexes.</p>		<p>What is the relevant EU legislation?</p>
<p><b>Registers</b> (Article 25) Addressed to: Competent authority (CA)</p>	<p>CA shall keep registers of storage permit and closed storage sites to be taken into account for planning procedures and when permitting activity could affect / be affected by CCS.</p>		<p>How is it implemented in practice?</p> <p>What are the key legal issues to be considered for the permitting and planning of CCS power stations and industrial installations?</p>
<p><b>Information to the public</b> (Article 26) Addressed to: MS</p>	<p>MS shall make available environmental information to the public, in accordance with existing legislation.</p>		<p>No dedicated provision for public participation in the decision-making and public engagement with respect to CCS in the Directive.</p> <p>The European Commission took the approach of referring to existing legislation dealing with public participation and amending existing legislation which had public participation and public information requirements to apply to CCS activities.</p> <p>Existing legislation relevant to public participation on CCS:</p> <ul style="list-style-type: none"> <li>- Public Participation Directive (2003/35/EC)</li> <li>- EIA Directive (as amended)</li> <li>- IPPC Directive (as amended)</li> <li>- Waste framework Directive.</li> </ul> <p>Do MS have to establish a CCS-dedicated public body in charge of dealing with public communication and risks, both before and throughout the implementation of a CCS project?</p>



<p><b>Reporting by MS</b> (Article 27) Addressed to: MS</p>	<p>MS shall report to the European Commission every 3 years on the implementation of the CCS Directive. First report due by 30 June 2011 (5 days after deadline for transposition).</p>		
<p><b>Penalties</b> (Article 28) Addressed to: MS</p>	<p>Penalties shall be laid down by MS for infringement of the national provisions adopted pursuant the directive. To be notified by 25 June 2011.</p>		<p>How did the MS implement this requirement?</p>
<p><b>Amendments existing EU legislation</b> (Article 31-37) Addressed to: MS</p>	<p>Amendment to EIA Directive Amendment to the Water Framework Directive Amendment to the Large Combustion Plants Directive, including a Carbon Capture Readiness (CCR) Amendment Environmental Liability Directive Amendment to the Waste Framework Directive Amendment to the Regulation on Transfrontier Shipment of Wastes Amendment to IPPC Directive</p>		
<p><b>Review</b> (Article 38) Addressed to: European Commission</p>	<p>Review process , which will also examine whether an EPS under the IPPC Directive would be 'needed and practicable'.</p>		

**Areas not addressed by the Directive**

(We are interested in knowing whether the national legislation addresses any of these areas)

- CO<sub>2</sub> capture
- Transport of CO<sub>2</sub>
- Property Rights (e.g. who owns the pore space onshore / offshore, if relevant?)
- Intellectual Property Rights
- Financial Incentives for CCS
- Transboundary movement of CO<sub>2</sub>
- Classification of CO<sub>2</sub>
- EOR / EGR
- Civil / Common law liability
- MS national laws on environmental damage