

Carbon Capture and Sequestration in Europe



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Europe established a legal regime to govern carbon capture and sequestration (“CCS”) and foster its development, and is now working to ensure that CCS projects are funded. Practical and legal intricacies and uncertainties linger.

The CCS Directive: The EU’s CCS Directive¹ came into force on 25 June 2009 and required that all EU member states implement national CCS laws by 25 June 2011.² The Directive is part of the EU’s strategy for meeting its ambitious climate goals — including a 20% emissions reduction by 2020 — through a package of related legislation, including emissions trading and renewable energy promotion measures. Current EU policy does not mandate CCS, but it authorizes it and amends other directives to clear the legal path.

Purpose: The CCS Directive is intended to establish a legal framework for environmentally safe geological CCS and to remove existing legal barriers.

Scope: It applies throughout the EU member states’ territories, including their exclusive economic zones (“EEZs”) and continental shelves, but not the water column. Also excluded are research projects of less than 100 kilotonnes of intended CO₂ storage.

Focus: The Directive regulates the storage phase of CCS, while capture and transport are covered by the IPPC, IED and EIA Directives, and national law.

Principal provisions:

- Sites must be carefully selected in accordance with Annex I assessment criteria; a site may be selected only if there is “no significant risk of leakage” and “no significant environmental or health risks.”
- Exploration is subject to national permitting schemes. National storage permitting schemes must ensure safety, financial and technical competence, and regulatory compliance, and are subject to European Commission review.
- Technical parameters apply to CO₂ streams intended for storage.
- New combustion power plants with 300 megawatt or more outputs must conduct CCS feasibility assessments and reserve sites for CCS where feasibility is found.
- Monitoring, reporting, and inspection requirements apply to storage operators.
- Financial security mechanisms are to ensure operator responsibility.
- Site closure requirements apply. The operator remains responsible post-closure, but may transfer responsibility for closed sites to a member state’s competent authority after 20 years, if certain safety and financial conditions are met (e.g., reserve funds, and insurance).
- Pursuant to Directive 2009/29/EC, CCS will be included in the EU ETS from 2013 onwards. Emissions that are captured and stored will be regarded as not emitted for purposes of the ETS. Before 2013, Member States may unilaterally decide to include CCS in the ETS program.

In an attempt to ensure a coherent implementation, the European Commission issued guidance documents on risk management, site characterization and monitoring, transfer of responsibility, and financial security. These guidance documents, however, did not resolve the legal issues and uncertainty surrounding CCS, which must now be addressed at the national level.

Legal Implications for Companies: Under the Directive’s regime, CCS can result in liability exposure — regulatory, civil and possibly even criminal — for companies at every stage of the process. Just some of the risks include: leakage from capture, transport, injection, or sequestration; impacts on human health (from, for example, groundwater contamination); environmental damage; trespass or property damage from injection or leakage. The risk of carbon leakage, insofar as permitted, could be mitigated by purchasing off-setting allowances.

¹ Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of CO₂.

² As of the end of 2011, only Spain and Romania reported having fully transposed the CCS Directive, with ten member states having achieved partial transposition, and fifteen not reporting any transposition at all. The European Commission launched infringement proceedings against 25 member states on 18 July 2011.

Liability for environmental damage from CCS leakages is imposed by the Environmental Liability Directive,³ and climate damage is covered by the Emissions Trading Directive,⁴ with penalties including revocation of emissions trading allowances for leakages. Additional liabilities arise under national laws, and span various types of law and regulations.

With the advent of widespread, commercial financing of CCS projects, the contractual issues and potential liability will take increasing prominence. Companies intending to engage in CCS should structure their financial agreements and instruments wisely to account for both short-term and long-term interests and risks.

There are a number of legal and strategic approaches companies can take to limit their risks, such as:

- Avoiding high risk areas/situations through best practices in site assessment and characterization;
- Structuring the CCS project to limit and manage legal risks, including defining ownership and control appropriately, establishing special purposes vehicles, and following standard operating practices to maintain limited liability;
- Employing monitoring and verification techniques to detect leakage, contamination, and other problems;
- Employing sophisticated financial instruments, such as insurance and off-sets;
- Using public-private partnerships (e.g., trust funds) to share and allocate risks;
- Applying best practices in carbon storage and management, and perhaps utilization.

International Law and Cooperation: While certain CCS technologies that tend toward geoengineering remain unauthorized under international law, both the London Convention and the OSPAR Convention have been amended to allow for geological CCS to go forward subject to adequate safeguards and risk assessments. The OSPAR Convention now provides Guidelines for Risk Assessment and Management of Storage of CO₂ in Geological Formations, including a Framework for Risk Assessment and Management (“FRAM”).

Ongoing Issues and Future Developments: There are still considerable hurdles, including legal ones, to overcome in the effort to make CCS commercially viable. For example, efficient transportation networks for CO₂ need to be developed and rules for access to storage sites are necessary. The CCS Directive, however, does not address these issues, nor does it make a business case for CCS.

The European Union, by amending EU ETS to permit CCS projects to opt-into the emissions trading scheme before 2013 and to be included from 2013-2020, has made CCS more financially attractive to potential investors who will now be able to subtract from their emissions any CO₂ safely captured, transported and stored. As Europe comes out of the economic crisis and the value of credits will rise, the relative pricing of CCS and purchasing allowances will change and may make CCS a preferred option.

The focus for CCS is increasingly transforming into “CCUS” — carbon capture, use and sequestration — making CCS more viable through expanded commercial uses of the technology and processes. This helps the business case for CCS, at the margin.

Additional Resources: Hunton & Williams has been involved with the legal issues surrounding CCS since its inception. We advise non-EU and EU companies on the full range of issues relevant to CCS, and have launched www.ccsalliance.net to help companies navigate CCS. The firm is recognized by *Chambers* 2011 and *Legal 500* 2011 as one of the leading European law firms in the environmental and regulatory areas. If you have any questions about CCS or how we can help, please contact us.

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³ Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage, as amended.

⁴ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, as amended.