

A large, light blue stylized globe graphic is positioned on the left side of the slide, partially overlapping the main text area. It features a grid of latitude and longitude lines.

CARBON DIOXIDE CAPTURE AND STORAGE (CCS)

Legal issues, risk and legal “gaps”

Christopher Norton - Partner

Baker & McKenzie LLP

May 2007

Baker & McKenzie LLP is a limited liability partnership registered in England and Wales with registered number OC311297. A list of members' names is open to inspection at its registered office and principal place of business, 100 New Bridge Street, London, EC4V 6JA. Baker & McKenzie LLP is a member of Baker & McKenzie International, a Swiss Verein with member law firms around the world. In accordance with the terminology commonly used in professional service organisations, reference to a "partner" means a person who is a member, partner, or equivalent, in such a law firm. Similarly, reference to an "office" means an office of any such law firm.

Baker & McKenzie LLP is regulated by the Law Society of England and Wales. Further information regarding the regulatory position is available at <http://www.bakernet.com/London/Regulation>.

Overview

- Purpose of this presentation
- Structure and approach
 - Phase I
 - Phase II
- Three key areas where “gaps” are evident
 - International and regional legal structure (Phase I)
 - Property considerations (Phase II)
 - Liability (Phase II)

CCS in context

- Potential legal concerns
 - Over time
 - Space
 - For different players in the market
- Risk allocation is key
 - Economic incentives vs. environmental considerations
 - How are risks arising from CCS activities treated?
 - How might risks arising from CCS activities be treated in the future?

The Phases - an introduction

- Phase I – setting the scene
 - Establishing a suitable international consensus and legal framework
 - Addressing key regulatory gaps or inconsistencies
- Phase II – CCS in operation
 - Dependent on Phase I
 - Key long-term considerations (such as IP, property and Economic incentives vs. environmental and environmental liability rights need to be addressed)

Phase I – setting the scene

- Legal framework unprepared for full-scale commercial CCS projects
- Potential options
 - Modify existing international, regional and domestic legal structures?
 - Create a bespoke framework?

Phase I – the current international framework

- Treaties with direct impact on the development of CCS
 - UNCLOS
 - UNFCCC
 - London Convention 1972 and 1996 Protocol
 - OSPAR Convention
- Initial thoughts: other treaties with an impact on CCS and the use of defined terms

United Nations Convention on the Law of the Sea (UNCLOS)

- Division of the ocean into maritime zones
- Long-stop 200 mile limit of coastal sovereignty
- Operation of CCS activities may (likely?) to be within this threshold
- Definition of “pollution” under UNCLOS
- Impact of the definition of pollution – the first legal gap

United Nations Framework Convention on Climate Change (UNFCCC)

- And...the Kyoto Protocol
- A clear option to mitigate climate change by addressing anthropogenic emissions at source
- Use of a “baseline”
- IPCC Guidelines – 2006
 - CCS emissions, in principle, within the scope of the UNFCCC
 - Further guidance required

London Convention and OSPAR

- London Convention 1972 and 1996 Protocol
 - An insight into how the international community can respond to legal gaps – late 2006
 - Clarification of the legal position of CCS under the London Protocol
- Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)
 - Considered to be the most comprehensive international agreement governing marine environment
 - Pollution ambiguities

Amending the international framework

- Modify existing framework?
- Appears to be necessary – but what are the implications of this?
 - Adds complexity and involves further negotiations
 - Will only apply to Parties to the relevant treaties
- Drivers for a bespoke framework still exist

Phase I – the European perspective

- No prohibitions *per se*
- Many Directives will play a part, for example:
 - water (2000/60/EC)
 - waste (75/442/EEC)
 - landfill (1999/31/EC)
 - pollution (1996/61/EC)
 - environmental impact assessment (85/337/EEC)
 - strategic environmental assessment (2001/42/EC)
- Key areas:
 - Waste
 - Water
 - Monitoring
 - European Emissions Trading Scheme (EU ETS)

Phase 2 – developing, operating and monitoring a CCS project

- Phase I complete?
- Phase II issues:
 - IP rights over emergent technologies
 - Ownership of plant and equipment and injected CO₂
 - Liability for operation and post-operational risks associated with CCS

Intellectual Property (IP) issues and Ownership issues

- IP issues - a number of legal gaps, including:
 - capture technology
 - technology transfer (and the implications of this)
 - harmonisation of cross-border IP treatment?
- Ownership issues:
 - property rights of surface and sub-surface
 - property rights in relation to plant and equipment (dealt with through contractual negotiations? What is the impact on risk allocation if this is the case?)

Liability – a key issue

- CCS is an emerging technology
- The periods of time involved in CCS are unprecedented
- Three ways in which liability is likely to arise re CCS:
 1. Operational Liability (operational)
 2. In situ Liability (post-injection)
 3. Climate Liability (post-injection)

Types of Liability

1. Operational liability

- Liability that project participants undertake when they are engaged in the process of capture, compression, transportation and injection of CO₂
- Issues to consider:
 - Analogous to commercial oil and gas operations
 - Liability when multiple actors are involved?

2. In-situ liability

- Liability arising from leakage or migration of CO₂
 - Public sector or private sector to bear responsibility for future leakage?

3. Climate liability

- Liability for leakage of CO₂ from the geological storage reservoir where that leakage contributes to the impacts on climate change
 - Not well defined: precise nature of this climate liability is likely to be determined by future regulatory regimes or enacted climate policy
 - Consider the impact on the link between CCS and emissions trading structures (UNFCCC, EU ETS)

A case study on the European Union

Directive on Environmental Liability (2004/35/EC)

"Environmental damage" is defined to include:

- a) **damage to protected species and natural habitats**, which is any damage that has significant adverse effects on reaching or maintaining the favourable conservation status of such habitats or species;
- (b) **water damage**, which is any damage that significantly adversely affects the ecological, chemical and/or quantitative status and/or ecological potential, as defined in Directive 2000/60/EC, of the waters concerned, with the exception of adverse effects where Article 4(7) of that Directive applies; and
- (c) **land damage**, which is any land contamination that creates a significant risk of human health being adversely affected as a result of the direct or indirect introduction, in, on or under land, of substances, preparations, organisms or micro-organisms.

CCS under European Liability Directive (the “Directive”)

- Does not provide a comprehensive legal liability for CCS activities
- Treatment of air pollution
- Length of responsibility under the Directive (30 years)
- Uncertainty for project Governments and stakeholders alike

Existing position under the Directive

- Strict liability vs. fault-based liability
- Listed occupational activities:
 - "waste management operations", which includes the collection, transport, recover, and disposal of waste, and hazardous waste, including the supervision of such operations and after-care of disposal sites, subject to permits, and the operation of landfill sites under the Landfill Directive
 - Manufacture, use, storage, processing, filling, release into the environment and onsite transport of dangerous substances
 - Trans-boundary shipment of waste within, into, or out of the EU under Council Regulation (EEC) No. 259/93

Current gaps under the Directive?

1. Setting the negligence standard for fault-based liability
2. Who should bear responsibility (the generator of the CO₂, the operator of the storage site or the State)?
3. Apportioning liability where multiple parties are involved?
4. Extent of liability (eg limited/unlimited; remediation and restoration costs)?
5. Relationship with international law regimes

A comparative study - international liability regimes

- Some examples of liability regimes:
 - HNS Convention
 - Minimum limits for damages from a pollution incident
 - Basel Liability Protocol
 - Minimum limits of liability for any one incident

Post-closure liability and Risk Management

- Post-closure liability needs to be addressed in light of:
 - Risk of leakage
 - Long-term life of CCS site
 - Public policy – Governmental liability?
- Options
 1. Temporary crediting
 2. Discount factor
 3. Pooling credits
 4. National licensing schemes
 5. Offset Obligation
 6. Insurance
 7. Others?

CONCLUSIONS

- Legal and regulatory framework must cover must Phase I and Phase II legal gaps
 - Clear rights and responsibilities are required
 - Communication and stakeholder participation is crucial

Questions and discussion

THANK YOU FOR YOUR TIME