

The SA law relating to
Carbon Capture and Storage:
international dimension, *status quo*
and some thoughts on possible future
considerations.

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IMBEWU Enviro-legal Specialists

- Environmental legal consultancy operating in conjunction with an Attorneys firm - based in Johannesburg.
- Providers of wide range of environmental legal advice, e.g., mining industry, advice on and participation in EIA processes, (Gautrain, Saldanha Harbour Extension), water law.
- Particular product: site-specific electronic legal registers.
- Environmental legal training and seminars.
- Particular specialty: advice on issues pertaining to implementation of climate change mitigation projects in the context of the Clean Development Mechanism established by the Kyoto Protocol, and the realisation of carbon credits for greenhouse gas emissions reductions.

General thoughts and observations

General observations

- Capture and storage of CO₂ is still a relative unknown - from a regulatory perspective – although the technology has been used for Enhanced Oil Recovery for some decades.
- While a variety of regulatory provisions exist that may be relevant to CCS activities, very few jurisdictions specifically regulate CCS.
- Some CCS-associated activities are particularly contentious, e.g., injection into the deep seabed.
- Need for clarity on the status of CCS in the context of various international conventions, e.g., UNFCCC & Kyoto Protocol, UNCLOS.
- IEA Working Party on Fossil Fuels: CCS Legal Issues Subcommittee: currently developing discussion papers on *inter alia* the following CCS-related topics:
 - Intellectual property;
 - Legal and Regulatory Frameworks;
 - Incentives for CCS projects;
 - International Environment Protection Instruments;
 - CCS and Public Awareness(IEA Legal Workshop scheduled for 17 October 2006).

CCS and CDM

- CCS is a CO₂ mitigation option, consequently, all other factors being equal, it is potentially viable as a CDM activity.
- Cost will be a factor, but the carbon revenue may tilt the scale in favour of undertaking a CCS activity.
- No clarity on whether the CDM Executive Board will accept CCS as a CDM activity.
- UNFCCC: Meetings of the Subsidiary Bodies (May 2006): included a workshop on CCS as a CDM activity.
- Possible clarity: November 2006.
- Certain CCS activities have been packaged as CDM activities and proposed to the EB, e.g.:
 - “The capture of CO₂ from the Liquefied Natural Gas complex and its geological storage in aquifer located in Malaysia”>>
 - CDM Project Design Document (January 2006) drafted by the Mitsubishi Research Institute for PETRONAS.

Limitations to this presentation

- Considers only questions relating to a regulatory framework for CCS.
- Other matters, e.g., questions of liability for health or environmental damage, are not considered.
- Focus on geological CCS activities: because probably the most feasible and has least “unknowns”.
- No value judgment.

Notwithstanding the limitations, consider:

- Can a CCS “reservoir” be owned (pore space)?
- Can these rights be transferred to another party, e.g., companies that purport to assume environmental liabilities.
- NEMA’s “cradle to grave” responsibility for pollution: will this be applicable to CO₂ “stored” as part of a CCS activity.
- Will an EIA be required for a CCS activity?
- Liability issues:
 - Operational: capture, transport, injection & storage;
 - Climate liability: related to leakage of CO₂ under a relevant climate change regulatory regime;
 - *In situ* liability: associated with occurrences at the sight of storage in situations where leakage or migration of CO₂ occurs which causes damages to health or the environment.

A 3D grid of spheres on a blue background. The spheres are arranged in a regular, repeating pattern, creating a perspective effect that recedes into the distance. The background is a solid, dark blue color.

International Dimension

International Dimension

- Currently no comprehensive international regulatory framework.
- Legal rules are vague.
- UNFCCC and Kyoto Protocol >> other conventions?

UNFCCC

- United Nations Framework Convention on Climate Change:
 - Parties to the Convention are obliged to promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases...including...oceans, as well as other terrestrial, coastal and marine ecosystems (article 4.1(d)).

Kyoto Protocol

- The Protocol requires its Parties to implement and/or further elaborate policies and measures such as research on, and promotion, development and increased use of, ...carbon dioxide sequestration technologies (article 2.1(a)(iv)).
- Art.6 provides that industrialised Parties are allowed “to increase their removal by obtaining sinks and to credit the resultant emission reduction units against own omission targets”.
- No specific reference to geological carbon sequestration technologies.
- CoP-7: Parties requested to cooperate in development of CCS.

Current South African Regulatory Framework??

Possible stages of a CCS activity

- Project initiation:
 - Feasibility, site assessment, sinking of injection wells, installation of surface infrastructure;
- Capture of CO₂ ;
- Compression of CO₂;
- Transport of CO₂;
- Injection of CO₂;
- Storage;
- Closure and post-closure, e.g., monitoring; question of long term removal.

Possible areas of legislation & law applicable to a CCS activity

- Mining:
 - Mineral & Petroleum Resources Development Act (MPRDA).
- Oil & Gas operations:
 - MPRDA.
- Pollution control & waste disposal:
 - Environment Conservation Act;
 - National Environmental Management Act (NEMA).
- Water Resources:
 - National Water Act (NWA).
- Gas (especially high-pressure gas):
 - Gas Act.
- Sub-surface property rights:
 - MPRDA;
 - Common law
- Other: e.g., questions of servitude for traversing of a pipeline over the properties of various property owners.

A thought: certain practical questions will impact the potential legal regime

- What are we dealing with (waste) and what we doing with it (disposal, storage)?
- Will CO₂ be characterised as “waste”?
 - ECA: “**waste**” means any matter, whether gaseous, liquid or solid or any combination thereof, which is from time to time designated by the Minister as an undesirable or superfluous by-product, emission, residue or remainder of any process or activity.
 - NEMA: “**pollution**” means any change in the environment caused by-
 - (i) substances;
 - (ii) radioactive or other waves; or
 - (iii) noise, odours, dust or heat,

emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

Environment Conservation Act 73 of 1989

- Wide definition of waste: if carbon dioxide is included then:
 - Sec. 20: permit required for the operation of disposal site.

National Environmental Management: Air Quality Act 39 of 2004

- Promulgated to minimise pollution to ensure air quality is improved.
- Definition of “air pollution” is wide and covers any change in the composition of the air caused by gases.
- Nothing specific to CCS, but the Minister is empowered to make Regulations regarding *inter alia* the avoidance or reduction of harmful effects on air quality from activities not otherwise regulated by the Act.

Mineral and Petroleum Resources Development Act

- Fails to provide any administrative or regulatory regime for CCS.
- Definition of “mineral” limited to any substance, whether solid, liquid or gas, occurring naturally in or on the earth and which was formed by or subjected to a geological process.
- Definition of to “mine” means any activity or operation for the purpose of “winning” any mineral on, in or under the earth.

Gas Act 48 of 2001

- Act provides for the development of “a piped gas industry” as well as the establishment of a national regulatory framework.
- National Gas Regulator must issue licences for the trading in gas; operating of gas transmissions, storage and distribution; and the construction of gas transmission and storage facilities.
- However, in terms of the act, definition of “gas” limited to all hydrocarbon gases transported by pipeline.



The way forward

The way forward

- Guidance from other jurisdictions.
- Possible use of SA's existing regulatory framework?

International lessons - Australia

● South Australia:

- petroleum legislation specifically provides for the:
 - transportation of carbon dioxide by licensed transmission pipeline; and,
 - grant of a licence to store carbon dioxide underground.

● Queensland:

- recent legislation which creates rights to store a 'prescribed storage gas' (which includes carbon dioxide) in natural underground reservoirs.

International lessons - Australia

- Western Australia: *Barrow Island Act 2003* promulgated to facilitate the proposed Gorgon Project (125 million tonnes of carbon dioxide)
- Section 13 deals with disposal of carbon dioxide underground and:
 - prohibits disposal of carbon dioxide without ministerial approval;
 - sets out the process to apply for approval, including the information and materials that must accompany an application; and
 - provides for consultation by the relevant minister with other government officials and third parties.

International lessons - Australia

- Under the provisions of the Barrow Island Act approvals to dispose of carbon dioxide underground may be granted subject to any restriction or condition, including (without limitation):
 - the payment of money to the State;
 - indemnification of the State; and,
 - the transferability or otherwise of the approval.

International lessons - Holland

- Mining Act (entry into force January 2003)
 - The Act, the Mining Decree, and Mining Regulations provide a framework for mining activities and provide a legal basis for the issuance of permits for both on-shore underground storage of substances in general deeper than 100 metres, as well as off-shore storage on the Continental Shelf.
 - Carbon Dioxide is not mentioned in the Act or Decree, but an Explanatory Note to the
 - Decree explains that storage regulations are kept general with the explicit intention of storing Carbon Dioxide.

General comments about a future regulatory framework for CCS in SA

- Probably most practical to include such regulation likely under an existing legislative framework, e.g., NEM: AQA, MPRDA.
- Need to decide:
 - CO₂ classified as a “waste”?
 - Which government department should have control, e.g., DEAT, DME?

Discussion

Thank you

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