

Geosequestration law in Australia

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Introduction

Geosequestration is being promoted by government and industry as a viable solution to help Australia achieve a widespread reduction in greenhouse gas (GHG) emissions. Government funding has been made available for research and development to improve the available technologies with a number of demonstration projects currently being planned or implemented around the country. However, geosequestration is not expected to become economically viable in the immediate future and many legal and regulatory issues need further consideration before large-scale use could occur.

This chapter outlines some of the major legal and regulatory issues that face industry and government in dealing with geosequestration activities. Commercial issues in developing geosequestration capabilities, such as the need to lower the economic cost of available technologies and/or develop new technologies, are outside the scope of this discussion.

What is geosequestration?

Geological sequestration, or 'geosequestration', is a term used to describe the process of capturing carbon dioxide (CO₂) emissions from power stations, and other industrial processes, and storing the captured gases deep underground for extended periods of time in saline aquifers, depleted oil and gas reservoirs, non-economic coal seams or natural underground pore spaces. The process of geosequestration, which is sometimes also referred to as 'carbon capture and storage', has three distinct stages: separation and capture; transportation; and injection and storage.

The CO₂ is first separated from other gases (such as sulphurous and nitrous oxides) emitted from a power station or from the raw gas produced from a petroleum production well, and captured. Then, large volumes of the captured CO₂ are transported from the point of capture to a storage site.

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regulatory environment, as would be necessary for geosequestration to become a viable solution to managing GHG emissions.

Further research and development is required to 'prove up' the technology, both in terms of the capture of CO₂ from industrial plants and the identification and testing of suitable storage sites located within a reasonable geographic proximity to the CO₂ emissions sources.

Despite the recent push by the Howard Government for the development of low-emission technologies (through the LETDF and other initiatives), it appears unlikely that this will provide sufficient incentive by itself in the short to medium term to develop low emission technologies based on geosequestration to the point where they can be economically competitive with existing energy technologies.

Without meaningful and mandatory limitations being imposed on GHG emissions in Australia, it seems unlikely that geosequestration could become commercially viable in the near future. However, given recent policy developments at federal and State level, it seems increasingly likely that such emission constraints will be imposed, which could make geosequestration-based technology more competitive. If this occurs, then the current work of the federal and State governments in developing the Guiding Principles provides a reasonable basis for the development of a nationally consistent regulatory regime.

Notes

- 1 Australian Greenhouse Office, *National Greenhouse Gas Inventory 2005: Accounting for the 108% Target*, Canberra, 2005.
- 2 Australian Government, *Securing Australia's Energy Future*, Australian Government, Canberra, 2004.
- 3 These projects are discussed further on p 159.
- 4 Australian Government, *Low Emissions Technology Demonstration Fund: Policy Framework*, Australian Government, Canberra, 2005.
- 5 Australian Coal Association, *Reducing Greenhouse Gas Emissions Arising from the Use of Coal in Electricity Generation: A Plan of Action for Australia*, Australian Coal Association, 2004.
- 6 CSIRO, *Energy Transformed Flagship*, <www.csiro.au/csiro/channel/ppch1d.html>.
- 7 *Minister for the Army v Dalziel* (1944) 68 CLR 261. The law relating to compulsory acquisition is complex and involves a detailed consideration of both common law and constitutional principles. It is beyond the scope of this discussion to provide a definitive view on these issues.
- 8 The Gas (Third Party Access and Accounts) Regulation 2000 (UK).
- 9 Warburton, Allison, *Carbon Capture and Storage: Report to the Australian Greenhouse Office on Property Rights and Associated Liability Issues*, Australian Greenhouse Office, Canberra, 2004.
- 10 Carbon Dioxide Geosequestration Regulatory Reference Group, *Carbon Dioxide Geosequestration: Draft Guiding Regulatory Framework*, Ministerial Council on Mineral and Petroleum Resources, 2004.
- 11 Ministerial Council on Mineral and Petroleum Resources, *Carbon Dioxide Capture and Geological Storage Australian Regulatory Guiding Principles*, Ministerial Council on Mineral and Petroleum Resources, 2005.