



Developing Australia's Legislation and Regulatory Guidelines for CCS

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Background



- Australia has a **federated system** of government.
- Australian Government has policy responsibility for **offshore waters 3 nautical miles from the coastline**.
- States and Territories are responsible for day to day regulation of petroleum offshore activities.
- Current process for petroleum activities within Commonwealth waters had been mirrored in State and Territory jurisdictions.
- Much of Australia's potential **storage capacity is in offshore sedimentary basins**.

Outline



- Key considerations in regulatory framework
- Establishing principles for regulation
- Developing the framework for a legislative model
 - A major challenge in developing the framework has been the [management of interaction with the petroleum industry](#)
- Filling in the details - guidelines and regulations

Key considerations in regulatory framework



- Deliver a consistent, transparent and flexible basis for regulation of carbon dioxide capture and storage projects.
- Potential to deliver investment certainty for CCS projects.
- Public confidence that CO₂ will be safely and effectively stored.
- Public confidence that natural resource management, environmental impacts, health and safety issues have been addressed.
- Increased research development and transfer of technology.
- Consistency in the application and regulation of CCS technologies and processes.

Regulatory Guiding Principles for CCS



- In November 2005, Ministers endorsed Regulatory Guiding Principles for Carbon Dioxide Capture and Geological Storage in Australia.
- These principles served to highlight key considerations of any CCS regulatory regime:
 - Assessment and Approvals
 - Access and Property Rights
 - Transportation
 - Monitoring and Verification
 - Post Closure Responsibilities
 - Financial Issues.

Legislative Model



Offshore Petroleum Act 2006 chosen due to:

- Similarity between transportation, injection and storage of CO₂ and petroleum industry
- Long standing and effective regulatory regime for offshore petroleum activity
- Need to reflect **co-existence and determinable rights** between petroleum and CCS industry
- National legislation to drive consistency across jurisdictions.

Greenhouse Gas Tenure



Petroleum	Greenhouse Gas
Exploration Permit	Assessment Permit
Retention Lease	Holding Lease Special Holding Lease
Production Licence	Injection Licence
Special Prospecting Authority Access Authorities Scientific Investigation Consents	Search Authorities Special Authorities Research Consents
Infrastructure Licence	

Co-existence of petroleum and CCS activities



- Many attractive storage sites may be located in petroleum provinces.
- Fundamental to any CCS acreage release will be [interaction with petroleum activities](#).
- International experience demonstrates CCS and petroleum activities are co-existing.
- Existing commercial CCS operations are within the “footprint” of oil and gas field production, with injection into deeper or shallower horizons, or down-dip of petroleum accumulation.

Acreage Release



- A similar process to that used for petroleum is proposed, that is initial proposal of release areas based on recommendations from industry, States and Territories and the Commonwealth, taking into account such factors as:
 - Prospectivity for storage structures
 - Source sink matching, including storage capacity, proximity to source/s
 - Activities compatible with other resource usage (esp. petroleum)
 - Regional geological formations match need for migration control.
- Release of areas for bidding after consultation with stakeholders (petroleum industry, environmental considerations, fishing, navigation, etc.).

GHG Assessment Permits



Allow:

- Exploration for potential storage sites.
- Injection of a GHG substance on an appraisal basis.
- Recovery of petroleum as an incidental consequence of assessment activities.
- Undertaking of activities within agreed work program.

GHG Holding Lease



Allow:

- Holding tenure while infrastructure associated with storage is developed (e.g. construction of an onshore power plant).
- Continued exploration for GHG storage site.
- Injection on an appraisal basis.

GHG Injection Licence



Inject and store a GHG substance. Licences will need to detail:

- The specific identified formation for injection
- GHG substance composition and / or special requirements
- The origin of the GHG substance
- The injection site
- Compliance with an approved site plan.

Protection of Existing Petroleum Rights



Rights of pre-commencement petroleum operators has been a major consideration

- Extensive consultation process prior to release of offshore areas.
- No approval of a project unless satisfied that there will be **no significant impact on petroleum operations** or there is an agreement in place between the petroleum and GHG operator.

No Significant Impact Test



- *No Significant Impact* will be a pre-condition for approval to undertake an activity under any GHG title.
- Many geotechnical aspects will be drawn upon in making an assessment.
- Undiscovered hydrocarbon potential will be one of the matters considered when deciding on an application for an injection licence.
- No significant impact will need to be considered on a case-by-case basis.

Post Amendment Title



- Post-amendment titles are petroleum exploration permits granted after the OPA CCS amendments and subsequent titles in the same series.
- However, **once granted an injection or production licence will have precedence** and the competing activity will be subject to the 'no significant impact test'.
- Where the two activities cannot coexist simultaneously the regulator will apply a **'public interest test'**.

Site Closure



- Undertake decommissioning activities – work program
- No set period of post injection monitoring with closure timeframes highly site specific
- Monitoring of short term migration to provide confidence in long term fate of injected GHG
- Post closure monitoring requirements

Current status and next steps



The legislation is due to be introduced into Parliament in the near future, after consultation with stakeholders on an exposure draft.

The other major task is to develop the guidelines and regulations to underpin the legislation. This process has just commenced.

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