Unconventional Gas Mining

Overview of regulatory safeguards and research

Legislative frameworks governing unconventional gas mining operate mostly at the federal and State levels. This Fact Sheet provides an overview of these frameworks.

The States are largely responsible for regulating this industry. Understanding the complex legislative and approvals process can be extremely difficult. Each State’s regulatory framework is at different stages of maturity in its capacity to rigorously safeguard agriculture, communities and the environment.

NSW and Queensland are the most advanced, with established centralised, dedicated agencies to oversee unconventional gas mining activities.

Australian Government

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act protects and manages nationally important flora and fauna, ecological communities, Ramsar wetlands and heritage sites. Under this legislation, the Federal Government approves actions, such as gas mining, which may affect the nine Matters of National Environmental Significance (MNES).

The nine MNES include internationally important wetlands; endangered species and ecosystems; and water resources in relation to CSG and large coal mining projects (“the water trigger”).

If a proposed gas project is deemed to trigger matters protected by the EPBC Act, a formal assessment and approval process is required and the Commonwealth Minister for the Environment may determine a project to be a “controlled action” – that is, an action affecting MNES.

The EPBC Act allows the Commonwealth to delegate powers to the States and Territories to assess and approve (or decide not to approve) proposed ‘controlled actions’, except the water trigger. A Bill to allow delegation of the water trigger is before Federal Parliament.

Independent Expert Scientific Committee (IESC)

The IESC on Coal Seam Gas and Large Coal Mining Developments provides scientific advice to decision-makers on the impacts that projects may have on Australia’s water resources. Under the EPBC Act, States and Territories must request advice from the IESC when considering the water trigger. Each State has different policies and guidelines to prompt referral to the IESC, such as the Aquifer Interference Policy of NSW or the Underground Water Framework of Queensland.

The EPBC Act’s water trigger applies when unconventional gas exploration or development has the potential to directly or indirectly and substantially alter the hydrology or quality of a water resource. The trigger is not related to the size of the proposed project or associated infrastructure.

The IESC also advises the Australian Government on Bioregional Assessments and research priorities and projects. Bioregional Assessments strengthen the science underpinning future decisions about CSG and coal mining and their effects on water-dependent assets.
Environmental Planning and Assessment Act (1979)

the CSG production also requires Development Consent under - petroleum production leases (required to extract gas - assessment leases (allows rights over the area to be - exploration licences (exclusive exploration rights for up to - special prospecting authorities (allows exploration for 12 Energy is generally responsible for granting these titles, and/or production activities. The Minister for Resources and
required to conduct unconventional gas mining exploration and/or production activities. The Minister for Resources and Energy is generally responsible for granting these titles, which include:
- special prospecting authorities (allows exploration for 12 months using only preliminary methods such as geological surveys);
- exploration licences (exclusive exploration rights for up to six years; can include pilot testing of a gas well);
- assessment leases (allows rights over the area to be retained for up to six years if a reasonable prospect that commercial production may be found in the longer term); and,
- petroleum production leases (required to extract gas for up to 21 years and allow the holder to conduct mining operations on the land as well as build associated infrastructure.

The Department of Natural Resources and Mining (DNRM) administers the Petroleum and Gas (Production and Safety) Act 1994 which governs exploration and production. This includes the upstream pipeline industry and management of water produced during petrol and gas production.

The Act also contains safety and technical provisions for all petroleum and gas activities and uses.

Under the Act, companies may apply for an Authority to Prospect (ATP) by tender. An ATP may be granted for a maximum 12 years and the application must be accompanied by a proposed work program covering authorised activities for each year of the program, usually four years.

The gas company must apply for a Petroleum Lease (PL) to permit specified activities for the exploration and production of CSG within the defined lease.

New South Wales

A title issued under the Petroleum (Onshore) Act 1991 is required to conduct unconventional gas mining exploration and/or production activities. The Minister for Resources and Energy is generally responsible for granting these titles, which include:
- special prospecting authorities (allows exploration for 12 months using only preliminary methods such as geological surveys);
- exploration licences (exclusive exploration rights for up to six years; can include pilot testing of a gas well);
- assessment leases (allows rights over the area to be retained for up to six years if a reasonable prospect that commercial production may be found in the longer term); and,
- petroleum production leases (required to extract gas for up to 21 years and allow the holder to conduct mining operations on the land as well as build associated infrastructure.

CSG production also requires Development Consent under the Environmental Planning and Assessment Act (1979).

NSW Gas Plan

In October 2014, the NSW Government released the NSW Gas Plan, outlining a commitment and proposed actions to adopt the 16 recommendations of the Chief Scientist and Engineer’s ‘Final Report of the Independent Review of Coal Seam Gas Activities in NSW’ (NSW CSE, 2014).

The Gas Plan includes extinguishing pending licence applications, mandatory compensation in land access agreements, a community benefits fund, the EPA as the lead regulator to avoid confusion, and a single environmental databank to assist in standard setting and developing clearer standards.

Further information: 
www.resourcesandenergy.nsw.gov.au

Victoria

As unconventional gas is a relatively new industry in Victoria, with no current production, this State has a less developed and coherent regulatory framework. More than 50 pieces of legislation, regulation, policies and administrative arrangements have a bearing on unconventional gas mining, covering resources, OH&S, dangerous goods, planning, environment protection and water.

Victoria regulates unconventional gas through two Acts. Licensing for CSG exploration and production is regulated under the Mineral Resources (Sustainable Development) Act (MRSD) 1990.

Licensing for exploration and production of shale and tight gas is regulated under the Petroleum Act 1998 (excluding transmission pipelines). Like NSW, Victoria has several levels of authorities and licences that can be issued for certain activities over stipulated periods of time.

The two Acts are currently administered by the Earth Resources Regulation Branch in the Corporate Planning and Compliance Services Division of the Department of Economic Development, Jobs, Transport and Resources. The relevant decision-maker is the Minister for Energy and Resources.

Licences are granted with conditions based upon draft Work Plans or Operations Plans relevant to the Act under which the licence is to be granted. These address considerations relating to land rehabilitation; environmental protection; groundwater protection; proposed works; licensee expenditure; reporting requirements; payment of fees, bonds, levies and royalties; and, land access.

Environmental assessment, management and compliance

Queensland

Environmental assessment and management comes under Chapter 5A of the Environmental Protection Act (1994). This requires all unconventional gas mining development to obtain an Environmental Approval (EA) with conditions to which the company must comply.

If the project is deemed to have a medium to high risk of causing serious environmental harm, it will be subject to an Environmental Impact Assessment (EIA), resulting in an Environmental Impact Statement (EIS). An EIS is required where an activity would:
- Disturb an area greater than 2,000 hectares in total at any one time during the life of the proposed activity; and/or,
- Involve construction of a high pressure pipeline over 300 kilometres or more; and/or,
- Involve the construction of a liquefied natural gas plant.

The EIS process allows a greater level of public scrutiny. Draft terms of reference are made available for a minimum 30 business days to allow stakeholders and any member of the public to comment on what values, impacts and commitments should be considered in the EIS.

New South Wales

Under the Environmental Planning and Assessment Act 1979, exploration projects with five wells or less are subject to less scrutiny than larger development and production projects.
Production projects are highly likely to require Development Consent and a Gateway Certificate. The Gateway process is triggered when developments are proposed on mapped Strategic Agricultural Land or within Critical Industry Clusters. The Gateway Panel refers projects to the Commonwealth’s IESC for advice if the Aquifer Interference Policy is triggered. Gateway Certificates can be conditional or unconditional. The proponent then proceeds to make a Development Application where an EIS must be developed (similar process to Queensland) and undergo a public consultation process. Determination is made with consent conditions to which the gas company must comply.

The Protection of the Environment Operations Act 1997 governs licences for waste, air, water and noise pollution control. No exploration, assessment or production activity can proceed without an Environment Protection Licence (EPL). In addition, any discharges of treated water to local watercourses would require an EPL.

The NSW EPA regulates the environmental and health impacts of all CSG activity, with responsibility for compliance and enforcement. The EPA can prosecute any company that breaches their EPL, with courts able to impose fines of up to $1 million. Any company that fails to inform the EPA of a serious incident can be prosecuted and fined up to $2 million.

Table 1: Summary of regulatory safeguards

<table>
<thead>
<tr>
<th>State</th>
<th>Primary Legislation (Licensing)</th>
<th>Applicable Environmental Legislation</th>
<th>Subject to Planning Legislation</th>
<th>Key Policies</th>
<th>Initiatives and Actions</th>
</tr>
</thead>
</table>
Unconventional Gas Mining

Presently, exploration under the MRSD Act or Petroleum Act does not require a planning permit under the Planning and Environment Act 1987. Planning permission, from the Planning Minister, is however required under the Planning Act for production, unless the project is assessed and approved under the Environmental Effects Act 1978 instead, requiring preparation of an Environmental Effects Statement (EES).

Exploration and production projects are exempt from requiring separate approval under the Environmental Protection Act 1970 based on these matters being dealt with through Work Plans submitted to the Department of Economic Development, Jobs, Transport and Resources.

As a referral agency for the Work Plans and EES, however, the Environment Protection Authority (EPA) assesses and advises on environmental management, monitoring and compliance of waste, air and water discharge, and noise and odour.

A licensee must have a statutory endorsed Work Plan and possess the appropriate work authority before starting exploration or production activities, unless it is deemed low impact exploration (such as geological surveys and mapping, small-scale soil/rock sampling). The Work Plan’s basic requirements include completion of a rehabilitation plan, an environmental management plan and a community engagement plan.

Projects that could significantly affect beneficial uses of water must be referred to the Minister for Planning, to determine if an Environmental Effects Statement (EES) is needed.

The Minister for Energy and Resources is required to consider the Planning Minister’s assessment of the EES; however recommendations are not binding. They are also to have regard to advice from the Commonwealth’s IESC.

Statutory approvals incorporate conditions for environmental monitoring and management. It is possible that several departments and agencies will have responsibility for enforcing approval conditions.

The Victorian Water Act 2000 is yet to specifically regulate unconventional gas exploration and mining.

Codes of Practice

NSW has two mandatory codes of practices, enforced by the Office of CSG:

The NSW Code of Practice for Coal Seam Gas Well Integrity sets, among other things, mandatory standards for well design and construction for protection of groundwater resources; well monitoring; and, management of produced water. The Code specifies that all CSG wells must be designed to prevent any interconnection between coal seams and aquifers, and ensure gas is kept within the well and associated pipes without leakage.

The NSW Code of Practice for Coal Seam Gas Fracture Stimulation Activities establishes a best practice framework which covers the hydraulic fracturing process, use of chemicals in fracturing fluid, sourcing of the water using in fracturing and protection of aquifers from the fracturing fluid. The Code requires a Fracture Stimulation Management Plan which is audited by the EPA.

Queensland has two mandatory codes, enforced by the Department of Natural Resources and Mines:

- The Code of Practice for Constructing and Abandoning Coal Seam Gas Wells and Associated Bores in Queensland (Edition 2) on which the NSW equivalent was developed.
- The Code of Practice for Coal Seam Gas Well Head Emissions Detection and Reporting, which specifies best practice management procedures to monitor fugitive emissions.

NSW and Queensland have developed codes of practice for land access which will be subject to legal audits once fully adopted through legislation. The codes were developed in consultation with stakeholders, including farmer representative groups.

The codes cover matters such as access points, track maintenance, biosecurity, notice of intent to access the property, water regulations, pest and weeds control, livestock management, management of fences and gates, and any items brought onto the property such as chemicals.

Further Information

A full set of Factsheets and a comprehensive contact list for each State is on www.dairyaustralia.com.au.

Resources


