Australian Government

Department of the Environment

How does the Government regulate the water-related impacts of coal and coal seam gas development?

The Australian Government plays an important role in protecting our environment from potential impacts of development activity, with a focus on matters of national environmental significance.* In the case of development activity related to large coal mines and the extraction of coal seam gas, this includes potential impacts on water resources.

The Commonwealth regulatory regime works in concert with state and territory governments, which have primary responsibility for water resources and assessing and regulating environmental impacts under state government legislation. Land use planning decisions are also made by state and local governments.

The Australian Government's involvement in protecting the environment in coal and coal seam gas projects is legally confined to very specific areas:

- water and other defined matters of national environmental significance*
- making best available science and research available for decision makers.

Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act is the main piece of Commonwealth environment legislation and allows the Australian Government to join with the states and territories to provide a national framework for the protection of our biodiversity.

In 2013 the Commonwealth amended the EPBC Act to include water resources as a matter of national environmental significance* when affected by coal mining or coal seam gas extraction (the 'water trigger').

The 'water trigger' allows coal and coal seam gas developments that are likely to have a significant impact on water resources to be comprehensively assessed at a national level. The Minister can set appropriate conditions as part of the project approval to ensure that any impacts from these projects on a water resource are acceptable.

There are two stages in the environment assessment process required by the EPBC Act:

1. Referral to see if a project requires approval under the Act.
2. Assessment/decision on whether to approve.

Referrals

The project referral is submitted to the Department for decision by the Minister. Once a valid referral is received the Minister has 20 business days to decide whether the coal seam gas project or coal mine requires assessment and approval, which includes a 10-day public comment period. If a significant impact on water resources is likely, the activity will need to be assessed and approved under the EPBC Act before it can proceed. This is called a `controlled action'.

* The nine matters of national environmental significance protected under the EPBC Act are world heritage properties, national heritage places, wetlands of international importance, listed threatened species and ecological communities, migratory species, Commonwealth marine areas, the Great Barrier Reef Marine Park, nuclear actions, and a water resource in relation to coal seam gas development and large coal mining development.

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BIO433.0615

Assessments

The EPBC Act sets out the process and timing requirements for each type of assessment with each process involving periods for public comment. Following the assessment, the Minister will decide whether to approve the action, approve the action subject to constraints (that is, place conditions on the action), or not approve the action.

The conditions of approval for an action may protect against, mitigate or offset environmental damage. Conditions can include bonds or other securities, independent environmental audits and compliance monitoring. Specialist officers monitor approved projects to ensure that conditions are complied with—non-compliance is treated seriously and significant penalties can be applied.

In deciding whether to approve an action, the Minister takes into account the principles of ecologically sustainable development, reflected in the objects of the EPBC Act. The principles include the precautionary principle; and the balancing of economic, social and environmental considerations.

Adaptive management

Conditions of approval often incorporate an adaptive management approach, in order to manage any uncertainties about environmental impacts. Adaptive management means that impacts are monitored and changes are made if impacts cross a specified threshold. This approach is critical to managing risks for major projects.

Adaptive management is underpinned by:

- a robust monitoring system to establish site specific baseline information about the current state of water (such as the water table, pressure of aquifers, salinity, etc.)
- precautionary triggers which are based on the baseline data and often require companies to take action at an early stage to avoid an impact from occurring
- triggers that, if reached, require the company to stop the activity.

In implementing this approach, CSG projects typically have conditions which allow them to draw down water to a certain limit. If a company draws down a certain proportion of that limit, for example 50 per cent, they hit an 'investigation' trigger, which is an early warning signal for the company to investigate why they are drawing down that much water. A second trigger is set, for example at 80 per cent of the drawdown limit, which requires the company to take action to halt further drawdown (for example by reinjecting water into the source aquifer or retiring existing bores). The final trigger sets an absolute limit for drawdown that cannot be exceeded, and in that case the company may have to cease CSG production until groundwater levels return to within the acceptable limits. Groundwater modelling on which these triggers are based is usually required to be peer reviewed as a condition of approval. The overall adaptive management approach is also subject to rigorous assessment before it is approved by the Minister.

Best available science and research for decision makers

The Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (the IESC) provides scientific advice to state and federal government agencies on the impacts that each coal seam gas and large coal mining development may have on water resources.

The committee also provides advice on research priorities and projects to improve our understanding and management of the impacts of coal and CSG extraction projects on water resources.

The Australian Government is funding regional scale assessments of the impacts of coal seam gas and large coal mining development on water resources in 13 areas across Queensland, New South Wales, Victoria and South Australia with significant coal resource deposits and development pressure.

These assessments will be key tools for decision makers in government and industry, the IESC, and other interested parties to manage the cumulative impacts of coal seam gas and large coal mining developments on surface and groundwater.

For more information

Coal, Coal seam gas (CSG) and water
www.environment.gov.au/water/coal-and-coal-seam-gas

The *Environment Protection and Biodiversity Conservation Act (1999)* (Cth) is at www.environment.gov.au/epbc

The *Significant Impact guidelines 1.3 Coal seam gas and large coal mining developments – impacts on water resources* is available at www.environment.gov.au

The National Partnership Agreement is available at www.federalfinancialrelations.gov.au/content/npa/environment/csg_and_lcmd/NP.pdf

The IESC website at www.iesc.environment.gov.au/

The Office of Water Science at the Department of the Environment at www.environment.gov.au/water/office-of-water-science

Further information on the bioregional assessments, including the products that have already been completed, is available at: http://www.bioregionalassessments.gov.au/

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