

# COAL AND COAL SEAM GAS – REGULATION

The Australian Government protects water resources from the impacts of coal and coal seam gas development through the ‘water trigger’ provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The Commonwealth regulatory regime works in concert with state and territory governments which have primary responsibility for water resources and regulating environmental impacts associated with the resource sector.

## ***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.

The EPBC Act focuses on the protection of matters of national environmental significance, while state and territory legislation focuses on matters of state and local significance. Matters of national environmental significance include ‘a water resource, in relation to coal seam gas development and large coal mining development’ as well as world and national heritage, wetlands of international importance and listed threatened species and ecological communities.

## **Water trigger**

Australia has extensive reserves of coal and coal seam gas. Developing these reserves has the potential to affect both surface and groundwater. For example, extracting groundwater can reduce flow in rivers and affect ecosystems, and mining operations will generally affect water quality.

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 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. As a result of the introduction of the water trigger, 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.

## **Role of the states and territories**

Primary responsibility for regulating environmental impacts associated with the resource sector rests with state and territory governments. Thus coal and coal seam gas activities are primarily assessed and regulated under state government legislation, which covers matters such as flood and pollution control measures.

So far, most major coal and coal seam gas extractions have been in Queensland and New South Wales.

## **Queensland**

Queensland has two main departments involved in the assessment of coal and coal seam gas operations. They are:

- Department of Environment and Heritage Protection
- Department of Natural Resources and Mines (including the Office of Groundwater Impact Assessment)

Queensland also has an Office of the Coordinator-General which operates under the Department of State Development. The Coordinator-General is responsible for declaring ‘coordinated projects,’ which require an environmental impact statement. The majority of coal and coal seam gas projects in Queensland are assessed under the bilateral agreement with the Queensland Government, either with the Office of the Coordinator-General (coordinated projects) or with the Queensland Department of Environment and Heritage Protection.

GasFields Commission Queensland is an independent statutory body formed to manage and improve sustainable coexistence among rural landholders, regional communities and the onshore gas industry.

## **Australian Government role and processes**

The EPBC Act provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the Act as matters of national environmental significance.

Before taking an action that could have a significant impact on a matter protected by the EPBC Act, the proposed action must be referred to the Australian Government Minister for the Environment.

The Australian Government's Department of the Environment becomes involved when a coal seam gas development or large coal mine is likely to have a significant impact on a water resource - or another matter of national environmental significance.

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

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

The 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 before it can proceed. This is called a 'controlled action'.

Coal seam gas or coal mine projects can be assessed using one of five methods: accredited assessment, assessment on referral information (assessment done solely on the information provided in the referral form), assessment on preliminary documentation (referral form and any other relevant material identified by the Minister as being necessary to adequately assess a proposed action), assessment by environmental impact statement (EIS) or public environment report, and assessment by public inquiry.

The EPBC Act sets out the process and timing requirements for each type of assessment with each process involving periods for public comment. When deciding if a proposed action should be approved and what conditions to impose the Minister must take into account:

- the principles of ecologically sustainable development
- the results of the assessment of the impacts of the proposed action, including the relevant recommendation report from the secretary of the federal environment department
- referral documentation
- community and stakeholder comments

- any other relevant information available on the impacts of the proposed action, and
- relevant comments from other Australian Government and state and territory government ministers.

The principles of ecologically sustainable development, reflected in the objects of the EPBC Act, are fundamental to decision-making under the Act. The principles include the precautionary principle; and the balancing of economic, social and environmental considerations.

The Minister may also take into account the environmental history of the individual or company proposing to take the action, including the environmental history of the executive officers of companies, and parent companies and their executive officers.

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 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.

## **Significant impact guidelines for the water trigger**

The Department has released Significant Impact Guidelines for the water trigger to assist anyone who proposes to take an action which involves a coal seam gas or coal mining development to decide whether the action is likely to have a significant impact on a water resource.

- Significant Impact Guidelines 1.3: Coal seam gas and large coal mining developments - impacts on water resources

These guidelines outline a ‘self-assessment’ process, including detailed criteria, to assist in deciding whether or not referral to the Department may be required. These guidelines may also help those who wish to comment on actions which have been referred under the EPBC Act.

If a project requires approval under the EPBC Act as well as state or territory legislation, the Australian Government prefers to undertake a joint or bilateral assessment with the relevant state or territory authority. This ensures a streamlined and consistent approach to the assessment and any conditions imposed on a project.

## **Adaptive management**

Adaptive management is an effective tool that can be used to manage uncertainty and reduce it over time to achieve ecologically sustainable development, which is fundamental to decision-making under the EPBC Act.

The principles of ecologically sustainable development include:

- that decision making processes should effectively integrate both long term and short term economic, environmental, social and equitable considerations; and
- the precautionary principle – that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The assessment process draws on independent expert scientific advice to identify the potential environmental impacts of a coal or coal seam gas development project, as well as the effectiveness of proposed management strategies. However, some uncertainties can remain and further work may be required after the approval is granted to address the environmental risks associated with the project.

An adaptive management approach set out in the conditions of approval is often used to manage 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 monitoring data and often require companies to conduct investigations and/or take action at an early stage to avoid an unacceptable impact from occurring
- triggers that, if reached, require the company to stop the activity.

In implementing this approach, coal seam gas projects typically have conditions which limit drawdown of groundwater levels to a certain level. If impacts to groundwater levels reach a certain proportion of that limit, for example 50 per cent, they hit a precautionary 'investigation' trigger, which is an early warning signal for the company to investigate the cause of the drawdown of groundwater levels. A second precautionary 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 modeling 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.

This allows for a systematic, rigorous approach, that explicitly incorporates risk, knowledge from past and current monitoring results and management actions to improve subsequent management actions. Approval holders are required to develop and implement management actions and manage risk in stages so that they can change or modify their approach to take new information into account.

Approval holders are also encouraged to work together to improve their environmental management.

For example, the major coal seam gas companies in Queensland are required to undertake aquifer connectivity studies and monitoring of relevant aquifers to ensure that there are no unforeseen impacts to groundwater sources, such as contamination of aquifers, increased connectivity between aquifers or drawdown to EPBC listed springs or other assets. If potential impacts of an activity are considered unacceptable and adaptive management techniques are not able to be used, the Department will consider other mechanisms available under national environmental law to mitigate the impacts.

Source: <https://www.environment.gov.au/water/coal-and-coal-seam-gas/regulation>