COAL SEAM GAS
FACT SHEET 2

NSW

EXPLORATION & PRODUCTION

Exploration and production of Coal Seam Gas (CSG) in Australia began in 1996, although methane gas in coal seams was first accessed during the early days of coal mining.

Methane gas was extracted at the Sydney Harbour Colliery in Balmain in the early 1900s, and was compressed and sold as an industrial and motor fuel. Production reached its peak in 1944 when more than 11 million cubic feet of gas was produced.

Today, CSG exploration and production in NSW is subject to some of the toughest regulations in the world to ensure protection of the environment and the safety of our communities. CSG exploration and production can proceed only after detailed multi-agency assessments which address environmental, community, health and water concerns.

The NSW Government has banned several exploration and production practices used in CSG activities in other parts of the world, including the use of harmful chemicals in the hydraulic fracturing process.

It has also banned evaporation ponds at CSG sites to encourage the treatment and re-use of water extracted in the process.

The NSW Government will introduce regulations which will ban all new coal seam gas exploration and production activity in or within 2 kilometres of existing and future residential areas. Coal seam gas activity will also be banned within the areas identified as the Upper Hunter equine and viticulture Critical Industry Clusters.

Stringent well integrity standards have also been released to protect aquifers and our precious water resources.

COAL SEAM GAS FACT SHEET 2

> CSG is stored within the natural pores of coal.

In addition, an Aquifer Interference Policy has been developed to specifically safeguard groundwater from any exploration or production which:

- Penetrates an aquifer.
- Takes water from an aquifer.
- Interferes with the water in an aquifer.
- Obstructs the flow of water in the aquifer.
- Disposes of water taken from an aquifer.

Aquifers are not underground rivers or streams but are small geological formations capable of holding water in usable quantities.

CSG lies at depths of 200-1000 metres below the earth's surface, where it is stored in the natural pores of coal.

A desktop study is typically the first stage of exploration. After identifying prospective deposits through geological studies and geophysical surveys, engineers move into the field to drill a core hole (up to 20 centimetres in diameter) to provide a sample of what is below the surface.

The data gathered from the drilling provides comprehensive geological information and details of the gas content in the coal seam.

Once testing is complete, core holes are cemented and plugged and the site is fully rehabilitated by the exploration company, in line with NSW Government requirements.

Geologists at work during the exploration process, NSW Hunter Valley.