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Coal Seam Gas Fact Sheet

What is Coal Seam Gas?

Coal seam gas (CSG) is natural gas found in coal seams. It is formed as a by-product of the conversion of plant material to coal, and trapped in the structure of the coal seams. It primarily consists of methane, which is an odourless, colourless gas.

CSG has been known for centuries, mainly as a potential hazard in underground coal mines. For safety reasons miners extract the gas out by drilling directly into the face of the coal seam before mining. Historically, CSG has simply been released into the atmosphere. However, methane is a greenhouse gas that traps heat and contributes to global warming (about 23 times more than carbon dioxide), so it's better for the environment for CSG to be captured and used.

CSG as an energy resource.

Like conventional natural gas, CSG can be used as an energy resource domestically in household stoves, heaters and hot water systems. It is also used for a range of industrial processes and for electricity generation.

Electricity generated from CSG produces up to 55 percent less greenhouse gas emissions and uses up to two thirds less water than conventional coal-fired electricity generation. CSG will therefore become an increasingly important energy resource as Australia transitions to a lower carbon economy.

CSG is of particular interest on Australia's east coast for two reasons. Firstly, our existing main gas supply, from South Australia's Cooper Basin, will begin to decline in just a few years. Secondly, CSG is plentiful in the coal seams of Queensland and New South Wales, so it's closer to major markets than alternative gas resources like the Northwest Shelf.

Extracting CSG.

CSG is held within the coal by water pressure. The gas can be released by drilling into the seam and removing enough of the water to reduce the pressure within the coal seam which allows the gas to flow.

To enable commercial gas flows, some coal seams require stimulation to enhance gas flows. There are several stimulation methods, including fracture stimulation and under reaming. Pilot or production wells are fracture stimulated ("fraced") by pumping a slurry of sand and water at high pressure into the seam. The pressure opens the cleats and creates new fractures within the coal seam, improving gas flow. The under reaming method involves a rotary drill bit that expands into the coal seam to enlarge the well bore to enhance gas flows.



▲ Stratford 6 Test Well at the Gloucester Gas Project.

About us

AGL has been operating in Australia for over 170 years and was one of its first listed companies.

AGL is Australia's leading renewable energy company and is Australia's largest private owner, operator and developer of renewable generation assets. AGL also operates retail, merchant energy and upstream gas businesses and has over three million customer accounts.

AGL is taking action towards creating a sustainable energy future for our investors, communities and customers.

For further information:

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