

Fact Sheet



Coal Seam Gas

- Coal seam gas is considered a “cleaner” source of energy
- Requires little treatment before use in homes and industry
- Queensland Curtis LNG to unlock new supplies for domestic and export markets

Natural gas, a mixture of gases made up mostly of methane, is used every day to cook meals, warm homes and fuel buses, cars and power plants.

Apart from methane (which is given the chemical symbol CH_4), other gases that can form part of natural gas include small amounts of ethane (C_2H_6), propane (C_3H_8) and butane (C_4H_{10}).

As early as 2000 years ago, the Chinese piped natural gas into their homes through bamboo pipes to fuel lights.

Today, most natural gas used in Australia comes from onshore fields such as the Cooper Basin, or offshore petroleum fields such as the North West Shelf and Bass Strait. In recent years, coal seam gas has become an important source of natural gas for Queensland.

The Australian Government has estimated the country’s possible reserves of coal seam gas are equivalent to more than 400 years’ supply based on current demand by eastern Australia.

Queensland Curtis LNG, a BG Group business, represents a major investment in Queensland’s coal seam gas industry to unlock new supplies of this cleaner energy for domestic and export markets.

Coal seam gas

Coal seam gas, or CSG, is a natural gas.

It occurs when coal is formed deep underground over millions of years of heating and compressing decomposing plant matter.

Over time, the gas becomes trapped in coal seams by water, typically 300-600 metres under ground.

Coal seam gas continued

When the water is removed, the pressure that has kept the gas in place changes, allowing the gas to flow.

Apart from methane, coal seam gas contains little or no other amounts of hydrocarbon gases such as ethane, propane and butane. Coal seam gas typically has only small amounts of carbon dioxide and nitrogen.

As such, it is considered a “cleaner” gas that requires relatively little treatment before being used in industry and households.

QGC, BG Group’s Australian business, is the operator of the Queensland Curtis LNG Project. The company currently produces coal seam gas from the Surat Basin in southern Queensland, one of Australia’s largest stores of coal seam gas.

Apart from increasing the availability of natural gas, extracting the coal seam gas serves another useful purpose by making underground mining safer.

If the coal seam gas were not extracted by QGC, it may otherwise be vented to the atmosphere as part of the mining process.

Coal seam gas extraction

Coal seam gas is extracted through wells drilled into coal seams.

When water is pumped out, the coal seam gas is released from the coal.

If the pressure within the seam is high, the gas may flow to the surface unaided. Conversely, the gas may have to be pumped to the surface if the pressure is lower.

When coal seam gas comes to the surface, any water in the gas is separated. The gas is dried and compressed and sent by pipeline to customers.

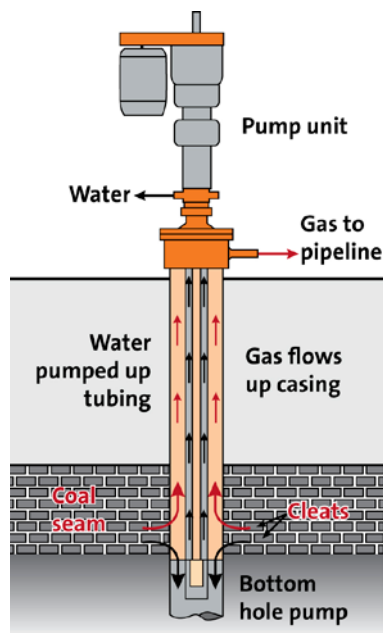
Coal seam gas to LNG to natural gas

The Queensland Curtis LNG Project involves taking coal seam gas produced from the Surat Basin and transporting it via a 380km underground pipeline to Gladstone. From there the gas will be fed into a liquefaction plant where it will be cooled to create liquefied natural gas, otherwise known as LNG.

Gladstone will be the first industrial centre in the world to use coal seam gas to supply a major liquefied natural gas facility.

The coal seam gas feedstock typically contains 98% methane, 1% nitrogen and less than 1% carbon dioxide. Because these small amounts of other gases are more difficult to liquefy and are not able to be burnt when the liquefied natural gas is returned to natural gas, they are removed at the gas plant prior to the liquefaction process.

The liquefaction process reduces the natural gas to 1/600th of its original volume, allowing large quantities to be readily transported by specially-built tankers to markets all over the world.



When it is delivered to these markets it undergoes “regasification”, a process which returns the liquefied gas to natural gas. Now it can be used as a fuel source for power generation and domestic consumption, including heating and cooking.

The availability of this clean, low-carbon fuel as an alternative to coal or oil means that considerably less greenhouse gases are generated in the countries in which it is used. In this way, natural gas and LNG are helping to reduce carbon dioxide levels globally.

Contact

If you would like more information about the Queensland Curtis LNG Project and coal seam gas, please contact us at:

info@qclng.com.au or our toll-free number 1800 030 443

Alternatively, visit our website: www.qclng.com.au



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