

# The challenge of developing Queensland's coalbed methane resource

by

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## ABSTRACT

Major field exploration and research work has commenced to assess the commercial potential of coalbed methane in Queensland with MIM being a leading industry participant. The author reviews MIM's exploration

and development plans for coalbed methane and analyses the perceived critical factors which are likely to influence the extent and timing of future development. Technical, commercial, and regulatory factors are discussed.

Over the last two years coalbed methane production in the United States has increased more than ten fold in volume. For example, in the San Juan and Black Warrior basins (the two most productive coalbed methane basins in the USA), 1993 production from the two basins combined was in the order of 6.2 billion cubic feet (BCF). By 1994, annual production for the two basins combined was some 38 BCF (100 million cubic feet per day).

US industry experts estimated that at the end of 1990 US coalbed methane production was in the order of 634 million cubic feet per day (ie. 233 BCF per year). Reserve estimates of likely production rates by 1997's indicate annual US coalbed methane production will reach 750 to 1,000 BCF.

The potential of coalbed methane as an energy source was officially recognised in the USA by the introduction of the Crude Oil Windfall Profit Tax Act of 1980. This Tax Act introduced at a time of historically high oil prices, addressed many aspects of US energy taxation. One feature was the introduction of a direct tax credit relating to coalbed methane production. The tax credit was linked to such factors as oil price and inflation levels. The value of the tax credit was estimated to be around US 95 cents per MCF for 1981 and it was expected to escalate at 9% per annum. The credit is calculated on production from wells drilled up to February 1985 and will continue on qualifying wells until January 1st, 2001. The amount of the coalbed methane tax credit in the USA was to stimulate research and development and subsequent commercial development of a resource that was considered to be of

considerable value. It was expected that this stimulus would lead to a decline in the reliance on imported energy sources. Evidence clearly supports the view that this tax credit achieved its primary purpose and in the USA there is now a burgeoning coalbed methane industry. US Government agencies (such as the Gas Research Institute) have received funding of tens of millions of dollars to pursue technical research projects aimed at commercialising coalbed methane.

Australia has more so than the USA, but a need to diversify its energy resources, particularly a cheap burning energy source such as methane gas and coal which can add significant value to Australia's economic base. Ongoing and planned industrial growth along the Eastern Seaboard of Australia and particularly along the Central and Southern coastal regions of Queensland, will be heavily influenced by the availability (or shortage) of a reasonably priced, environmentally friendly, energy feedstock.

Various independent reports have indicated that a world class coalbed methane resource exists in the Bowen Basin in Central Queensland. Broad comparisons with other conventional gas resources indicate that the potential recoverable coalbed methane resource in the Bowen Basin may exceed the recoverable reserves of the North West Shelf gas project. Development of such a gas resource would bring substantial long term benefits both locally and nationally. This development process requires a heavy commitment to research and subsequently to exploration and field development.