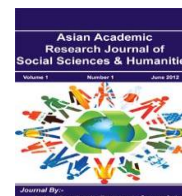




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ECONOMIC OPPORTUNITIES OF COALBED METHANE AS ALTERNATIVE FUEL IN INDIA, AND ITS IMPACT ON ENVIRONMENT

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Abstract

Coal Bed Methane (CBM), the natural gas contained in Coal or bituminous lignite under reservoir conditions, is considered a potential source of energy as an alternative to conventional fuels viz coal, petroleum and fuel wood. CBM is the natural gas found in most coal deposits and is created during coalification over millions of years. The generic term for this hydrocarbon gas is called Coal Bed Methane. It is a mixture of gases, dominant by methane with minor quantities of other gases like carbon dioxide and nitrogen. Methane is contained within the coal seam as a monomolecular layer where it is adsorbed or attached to the internal surface of coal. The heat value is typically in the range of 1000 Btu/scf, slightly less than the conventional natural gas due to the absence of heavier hydrocarbons. Methane is also present as 'methane hydrate' which is formed at a very low temperature (< 70 C) and high pressure (> 50 atmosphere). It is seen in the form of ice like structure, mainly under deep sea (~ 30 – 2000 m depth), on exploration it produces huge gas. This article focuses only on coalbed methane. India, a leading developing country has many sources of energy at present; though in the past coal was the only main fuel. Now India is switching over to many other types of fuels. Extraction of coal provides methane gas, the lightest hydrocarbon, can be burnt to the ultimate extent and hence provide maximum energy. Methane gas is available in coal seams as coalbed methane (CBM). India has a huge reserve of coal; hence, availability of CBM is also enormous depending on its proper extraction. It is a natural source, it does not require any production process, and hence no expense is required other than for the method of extraction. So it may be clearly said that, there is a good economic opportunity for the present and future use of this gas.

Keywords: CBM: Coalbed methane Scf: Standard cubic feet Methane hydrate
