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Analyzing Coal to Liquids

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Abstracts

Coal is a fossil fuel formed in ecosystems where plant remains were saved by water and mud from oxidization and biodegradation. Coal is a readily combustible black or brownish-black rock. It is a sedimentary rock, but the harder forms, such as anthracite coal, can be regarded as metamorphic rocks because of later exposure to elevated temperature and pressure. It is composed primarily of carbon along with assorted other elements, including sulfur. It is the largest single source of fuel for the generation of electricity world-wide, as well as the largest world-wide source of carbon dioxide emissions, slightly ahead of petroleum and about double that of natural gas. Coal is extracted from the ground by coal mining, either underground mining or open pit mining.

Coals can also be converted into liquid fuels like gasoline or diesel by several different processes. The Fischer-Tropsch process of indirect synthesis of liquid hydrocarbons was used in Nazi Germany for many years and is today used by Sasol in South Africa. Coal would be gasified to make syngas (a balanced purified mixture of CO and H2 gas) and the syngas condensed using Fischer-Tropsch catalysts to make light hydrocarbons which are further processed into gasoline and diesel. Syngas can also be converted to methanol, which can be used as a fuel, fuel additive, or further processed into gasoline via the Mobil M-gas process.

Coal liquefaction is one of the backstop technologies that could potentially limit escalation of oil prices and mitigate the effects of transportation energy shortage that some authors have suggested could occur under peak oil. This is contingent on liquefaction production capacity becoming large enough to satiate the very large and growing demand for petroleum. Estimates of the cost of producing liquid fuels from coal suggest that domestic U.S. production of fuel from coal becomes cost-competitive with oil priced at around 35 USD per barrel, (break-even cost). This price, while above historical averages, is well below current oil prices. This makes coal a viable financial alternative to oil for the time being, although current production is small.

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Aruvian's R'search brings you an in-depth focus on the emerging technology of Coal to Liquids. The report focuses on all aspects of the various processes involved in the CTL process, conversion processes utilized on natural gas, the major companies which are investing in this technology, the reasons for investing in CTL and the investment scenario in the technology, and the financial difficulties faced during financing of projects.

The report looks at the growth factors, challenges and barriers, the concept of using CTL fuel for transportation, the economic feasibility of CTL technologies and CTL projects, the effect of CTL on the energy market, and of course, the basics of Coal to Liquid technologies. A lot more awaits you inside this comprehensive intelligent analysis of CTL technology and market.

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