AN ECONOMIC COMPARISON OF PROCESSES FOR PRODUCING PIPELINE GAS (METHANE) FROM COAL

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An impending shortage of natural gas in the United States has led to intensive bench scale research in efforts to develop processes for preparing pipeline quality gas (methane) from coal at competitive costs. Funding of the research has been provided by the Office of Coal Research, the American Gas Association, and private organizations. Processes under development differ in the method by which steam-carbon reaction heat is added. The following list identifies the most notable processes and the method each process uses for steam-carbon reduction heat addition.

Process	Developer	Heat Addition By
Hot carbonate	M. W. Kellogg Co.	Sensible heat of molten salt
Super high pressure	Bituminous Coal Research	Combustion of pure oxygen
C.S.G.	Consolidation Coal	In-situ exothermic chemical reaction
Continuous Steam-Iron	Fuel Gas Associates	In-situ exothermic chemical reaction
Hygas	Institute of Gas Technology	Electric power and in-situ exothermic chemical reaction

The processes under development are reviewed and their relative economics explained by a presentation of the thermochemistry of reactions utilized in preparing methane from coal.