

Potential Impact of Large-Scale Coal-to-Liquids Utilization on Remaining Coal Resources of the United States

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The use of coal for the large-scale production of liquid fuels (coal-to-liquids, CTL) is a major economic, environmental, and policy issue that faces the country. The United States has large resources of coal in the lower 48 states and in Alaska. The U.S. Energy Information Administration (EIA) includes about 496 billion short tons of coal within its Demonstrated Reserve Base. Of this amount, approximately 264 billion short tons are classified as Estimated Recoverable Reserves (ERR) by EIA. There is, however, a considerable uncertainty about the size of U.S. ERR (1) because of the dates and manner in which much of the original coal resources data were collected from a variety of different sources, (2) because the potential costs of large-scale production of electric power by renewable energy sources are not well known, and (3) because the unknown impact that potential future uses of coal for gasification and for CTL conversion may have on the quality and thickness of coal beds that may be classified as reserves. Depending on coal prices, however, there are apparently enough remaining reserves to support a moderate CTL industry in the U.S. (15-70 million short tons per annum) in addition to the other uses for coal, including the generation of electric power, for the next several decades or more. A much larger amount of coal (2.7-3 billion short tons per annum) would be required if we were to replace all projected imports of liquid fuels with Fischer-Tropsch-produced liquid fuels. Although the latter scenario is unlikely, it is presented to approximate the maximum impact that large-scale conversion of coal-to-liquids could have on the depletion of the nation's coal reserves.