Coalbed Methane (CBM) is natural gas found in coal deposits. It was once considered a nuisance and mine safety hazard, but today has become a valuable part of the U.S. energy portfolio. A major reason for this is resource characterization and the establishment of efficient recovery methods pioneered by Office of Fossil Energy (FE) research and development.

CBM proved reserves and production have grown nearly every year since 1989. Today it accounts for 9 percent of total domestic natural gas production and nearly 8 percent of U.S. proved reserves. The U.S. Energy Information Administration believes CBM will continue to provide an important share of domestic energy between now and 2035.
The U.S. Geological Survey (USGS) reports more than 700 trillion cubic feet (tcf) of CBM in place resources, over 100 tcf of which is economically recoverable.

CBM can be recovered from underground coal before, during or after mining operations. Significant quantities of CBM can also be extracted from “unminable” coal seams that are relatively deep, thin, or of poor or inconsistent quality. Vertical and horizontal wells are used to develop CBM resources.

DOE has been a long-time supporter of CBM R&D. As early as 1984, FE’s Unconventional Gas Recovery Program encouraged CBM development, resulting in the first commercial sale from dedicated wells.

Through R&D, FE has been instrumental in providing a fundamental CBM knowledge base to industry that includes: assessing the resource; identifying favorable geologic production areas; establishing efficient recovery schemes; demonstrating advanced drilling technologies; and supporting capture and use of diluted gas streams. FE R&D is currently focused on the potential for enhanced gas recovery integrating underground storage of carbon dioxide.

CBM production involves using water or other fluids to create a “crack” through which methane can flow easily into a well.