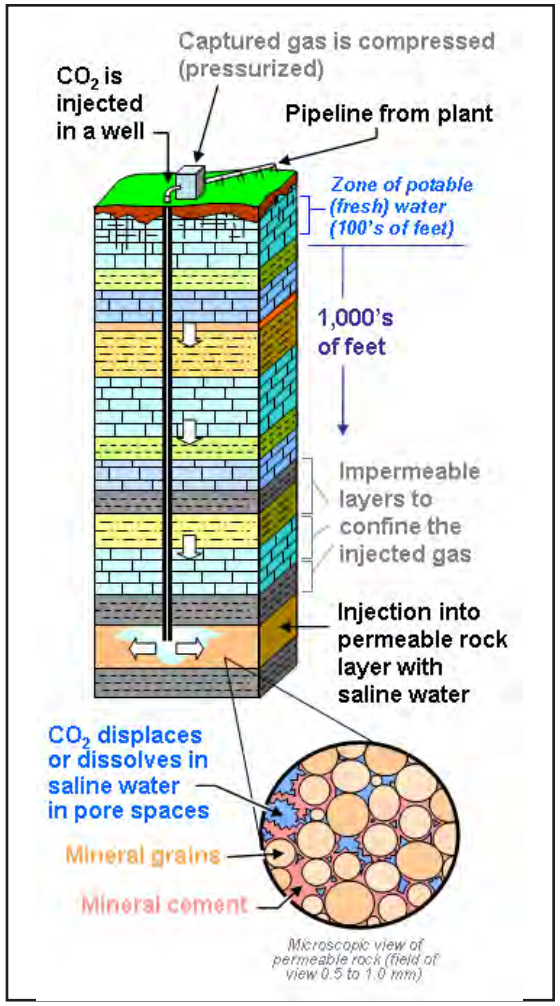
Project Schedule

The consortium will be organized in early 2008, and research will take up to 4 years to complete. Preliminary site selection for the deep wells will be completed in the spring of 2008, and seismic data acquisition and other site characterization work will take place that summer. Final site selection will be completed by the fall of 2008. Permitting will follow, and we hope to begin drilling the first well in late 2008. The enhanced oil and gas phase of the research will begin in mid 2008. Research results and progress will be posted on the consortium Web site: www.kyccs.org.



Project Management

The Kentucky Geological Survey, a research center of the University of Kentucky, will manage the consortium and lead the research. KGS has been involved in carbon storage research for more than 7 years, and is currently participating in three U.S. Department of Energy-funded regional CO_2 partnerships, and several State-funded storage projects. KGS researchers have expertise in regional subsurface geology, reservoir analysis, seismic interpretation, geochemistry, and coal geology.

Drill rig and logging truck at CO_2 storage demonstration site in the Michigan Basin.

For more information please visit the KYCCS Web site:
www.kyccs.org
or contact:

David C. Harris
Head, Energy and Minerals Section
Kentucky Geological Survey
228 Mining and Mineral Resources Bldg.
University of Kentucky, Lexington, KY 40506-0107
859-257-5500 ext. 175

Kentucky Consortium for Carbon Storage

www.kyccs.org

Kentucky UNBRIDLED SPIRIT
Governor's Office of Energy Policy

Oversight and funding from the Kentucky Governor's Office of Energy Policy

Research by the
Kentucky Geological Survey
UNIVERSITY OF KENTUCKY

The increasing energy needs of Kentucky and the United States will require continued reliance on coal as a major energy source. Kentucky has large coal resources that have traditionally been used for electric power generation, but also have the potential to be synthesized as transportation fuels. Alternative uses of Kentucky coal could help the United States reduce its dependence on oil imports. Coal combustion and fuel conversion processes, however, produce carbon dioxide (CO_2) emissions, and it is likely that such emissions will be mitigated in the future. Geologic storage (sequestration) of CO_2, which is the focus of this research, is a developing technology that might reduce future CO_2 emissions from stationary sources. Research is under way across the nation to determine where and to what degree this technology can be used. Demonstrating geologic storage would allow continued use of Kentucky coal with decreased greenhouse gas emissions.

New Legislation Funds Carbon Management Research

Anticipating requirements to mitigate CO_2 emissions resulting from the use of coal in Kentucky, the Kentucky Legislature passed House Bill 1 in a 2007 special session. This bill authorizes funding for research by the Kentucky Geological Survey in the areas of CO_2 enhanced oil recovery, CO_2 enhanced gas recovery, and permanent geologic storage of CO_2.

HB 1 requires the drilling of research wells in Kentucky's eastern and western coal fields to assess the suitability of subsurface reservoirs for CO_2 storage. The bill also requires applying CO_2 enhanced gas recovery technology to the Devonian black shale, Kentucky's most prolific gas reservoir.

Kentucky Consortium for Carbon Storage

HB 1 encourages the Kentucky Geological Survey to partner with industry to share the cost of this important research. The Kentucky Consortium for Carbon Storage has been formed to accomplish this goal. Members of this consortium will benefit from cooperative storage research that will cost a fraction of independent research programs.

Deep Saline Reservoirs

The U.S. Department of Energy has determined that deep, porous, saltwater-bearing rock formations provide the best choice for permanent storage of large volumes of CO_2. The Kentucky Consortium for Carbon Storage will drill at least two wells to collect data and conduct injection testing of subsurface reservoirs in Kentucky. These wells will add to our sparse data set for deeper formations, and help assess Kentucky's potential for CO_2 storage.

Conoco #1 Shain Well, Grayson County Ky. Total depth 12,622 ft. Drilled in 1993.

Enhanced Oil and Gas Recovery

Injection of CO_2 has been successfully used for enhanced oil recovery in west Texas and other fields for more than 30 years. Availability and cost, however, have limited the widespread use of CO_2 for enhanced oil recovery in Kentucky oil fields. Capture of CO_2 from coal gasification and power plants could provide a source of low-cost CO_2. Consortium research will include a demonstration of CO_2-enhanced oil recovery technology in Kentucky, where the potential in-place target resource is more than 1.3 billion barrels of oil.

Certain types of gas reservoirs could also benefit from CO_2 injection. Carbon dioxide can displace methane in organic-rich formations such as coals and black shales, increasing gas production. The consortium will conduct an enhanced gas recovery demonstration in the Devonian shale. Testing this concept is important because of Kentucky's vast black shale gas resources.