

**AAPG Annual Convention
Salt Lake City, Utah
May 11-14, 2003**

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Online Tools to Evaluate Oil and Gas Fields for CO₂ Sequestration

Heretofore, a lack of economic sources of CO₂ has precluded its use for enhanced oil and gas recovery in many areas of the country. If flue-gas separation technologies advance sufficiently to make economical sources of CO₂ widely available, injection of CO₂ for enhanced recovery may become more widespread, and make it one of the most attractive options under consideration for CO₂ sequestration. As part of the USDOE-funded Midcontinent Interactive Digital Carbon Atlas and Relational Database (MIDCARB) project, detailed information is being gathered and analyzed for five states' oil and gas fields. Using GIS technology, field data is combined with data on CO₂-source locations and characteristics to evaluate candidate fields/pools for CO₂-driven enhanced recovery operations, or simply for storage of CO₂ in abandoned reservoirs. Source output can be compared to field injection capacity, and future enhancements will allow economic calculations to be applied to specific source/reservoir pairs.

MIDCARB is a distributed database system that contains both detailed and regional geologic and reservoir properties for prospective sequestration reservoirs in the five participant states. One aim of MIDCARB is to augment the current general inventory of geologic sequestration capacity in the United States with detailed regional and local capacity assessments. Data and information on prospective sequestration sources and sinks is provided from multiple servers and databases and provided seamlessly on the user's desktop via the Internet. The distributed approach of the MIDCARB system provides a model to simplify construction of a national geologic sequestration database.