

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

David J. Beecy, U.S. Department of Energy, Washington, DC

The U.S. Department of Energy Carbon Sequestration Research, Development, and Demonstration (RD&D) Program

Carbon sequestration is receiving significant interest within the context of overall U.S. National Strategies for addressing concerns about the levels of accumulation of greenhouse gases (GHGs) in the global atmosphere. It is being recognized as the potential, "third-option" for GHG Management, along with increased efficiency of energy supply and use, plus the increased use of renewable energy sources. Together, these three options provide the ability to sustain economic growth through available and affordable energy, while meeting environmental goals.

The U.S. Department of Energy Carbon Sequestration Research Development and Demonstration Program portfolio covers the entire carbon sequestration "life cycle" of capture, separation, transportation, and storage or reuse. It also covers research for two other energy-related greenhouse gases of concern, methane (CH₄) and nitrous oxides (N₂O). This paper covers the following topics:

- CO₂ sequestration in geological formations including oil and gas reservoirs, unmineable coal seams, and deep saline reservoirs.
- Cost-effective CO₂ capture and separation processes.
- Cost Effective technologies for verification of quantities stored.
- New Sequestration Systems based on advanced chemical, biological, and decarbonization concepts.

The current status and future plans of this RD&D Program, with particular emphasis on the geologic storage options are described.