

PROJECT facts

U.S. DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY
NATIONAL ENERGY TECHNOLOGY LABORATORY

Sequestration

07/2005



MIDWEST REGIONAL CARBON SEQUESTRATION PARTNERSHIP (MRCSP)

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Background

The U.S. Department of Energy has designated seven partnerships of state agencies, universities, and private companies that will form the core of a nationwide network that will help determine the best approaches for capturing and permanently storing gases that can contribute to global climate change. All together, the partnerships include more than 244 organizations, spanning 40 states, three Indian nations, and four Canadian provinces.

The seven partnerships will develop the framework needed to validate and potentially deploy carbon sequestration technologies. They will evaluate and determine which of the numerous sequestration approaches that have emerged in the last few years are best suited for their specific regions of the country. They will also begin studying possible regulations and infrastructure requirements that would be needed should climate science indicate that sequestration be deployed on a wide scale in the future.

Description

Battelle Memorial Institute is leading one of those partnerships. Battelle has built a unique public-private partnership, the Midwest Regional Carbon Sequestration Partnership (MRCSP), to tackle the challenge of reducing CO₂ emissions while simultaneously protecting the industrial infrastructure of the Midwest Region. The partnership will assess the technical, economic, and social acceptability of carbon sequestration as part of a strategy to reduce CO₂ emissions in the United States. The MRCSP will focus its research in the U.S. industrial heartland: Indiana, Ohio, Kentucky, West Virginia, Pennsylvania, Michigan and Maryland. This Region is a concentrated center for industrial and manufacturing activities which it maintains because of the affordable energy made possible by abundant domestic energy resources and a quality workforce. MRCSP will identify greenhouse gas sources in the region and assess the ability and cost of capturing and sequestering these emissions in the region's numerous deep geologic formations and abundant agricultural, forest, and degraded land systems. In addition, MRCSP will engage the public and elected officials at all levels to communicate the issues and the potential value associated with terrestrial and geologic sequestration. MRCSP will also examine existing regulatory and other barriers that might hinder our ability to cost effectively deploy these technologies and will define strategies for overcoming these barriers.



PARTNERS

American Electric Power
AES Warrior Run
AJW Group
Alliance Resource Partners
(Mettiki Coal)
Arch Coal Inc.
Baard Energy
Babcock & Wilcox
Battelle Memorial Institute
British Petroleum
Center for Energy & Economic
Development
Cinergy Corp.
CONSOL Energy Inc.
Constellation Energy
DTE Energy
First Energy
Indiana Geological Survey
Kentucky Geological Survey
Maryland Energy Administration
Maryland Geological Survey
Monsanto
NRRI, National Regulatory
Research Institute
Ohio Coal Development Office
Ohio Corn Growers Association
Ohio Division of Geological
Survey
Ohio Environmental Council
Ohio Forestry Association
Ohio Soybean Council
Ohio State University-Ag Admin
Ohio State University-Chemical
Engineering
Ohio Turfgrass Foundation
Pacific Northwest National
Laboratory
Pennsylvania Geological Survey
Pennsylvania State University
Purdue University
Scotts Company
The Keystone Center
University of Maryland
West Virginia Geological and
Economic Survey
West Virginia University
Western Michigan University

COST

Total Project Value
\$3,068,468

DOE/Non-DOE Share
\$2,250,000/\$818,468

Primary Project Goal

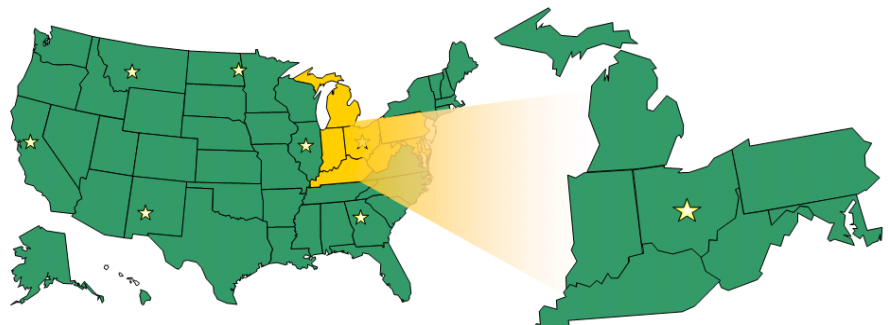
To identify green house gas sources in the partnership's region and determine the technical feasibility and cost of capturing and sequestering these emissions in deep geologic formations and in forests and agriculturally degraded land systems

Objectives

- To identify greenhouse gas sources in the region and assess the ability and cost of capturing and sequestering these emissions in the region's numerous deep geologic formations and abundant agricultural, forest, and degraded land systems.
- To engage the public and elected officials at all levels and dialog on the issues and potential values associated with terrestrial and geologic sequestration.
- To examine existing regulatory and other barriers that might hinder the ability to cost-effectively deploy these technologies and to define strategies for overcoming these barriers.
- To translate this accumulated knowledge into practical implementation approaches. At the end of two years, the partnerships will have developed action plans for public outreach and education, regulatory compliance, and technology validation to support potential small scale tests within the region.

Benefits

Battelle researchers are currently leading the U.S. Department of Energy's Mountaineer Project, which is evaluating the feasibility of sequestering in deep saline formations CO₂ from one of American Electric Power's modern coal-fired units. Never before has a team of researchers with skills of such depth and breadth worked together to advance key energy and climate management technologies, such as CO₂ sequestration. This project will determine whether there is a cost-effective way to reduce relatively high CO₂ emissions in the region.



Midwest Regional Carbon Sequestration Partnership - (Region 1)