PROJECT facts

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

Sequestration

4/2004

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 156 organizations, spanning 40 states, three Indian nations, and two 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 CO_2 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 CO_2 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.

PROJECT PARTNERS

Battelle Memorial Institute

British Petroleum

Nordic

Arch Coal Inc.

American Electric Power

Cinergy

CONSOL Energy Inc.

First Energy

Wisconsin Energy Corporation

Indiana Geological Survey

Kentucky Geological Survey

Ohio Coal Development Office

Ohio Division of Geological Survey

Ohio Environmental Office

Pennsylvania Geological Survey

West Virginia Geological and Economic Survey

Ohio State University

Pennsylvania State University

Purdue University

West Virginia University

National Regulatory Research Institute

The Keystone Center

Michigan State University

University of Maryland

Western Michigan University

Maryland Geological Survey

AES Warrior Run, Inc.

Maryland Energy Administration

DTE Energy

Alliance Resources Partners

Constellation Energy

COST

Total Project Value: $3,513,513

DOE: $2,410,967

Non-DOE Share: $1,102,546

MIDWEST REGIONAL CARBON SEQUESTRATION PARTNERSHIP (MRCSP)

Primary Project Goal

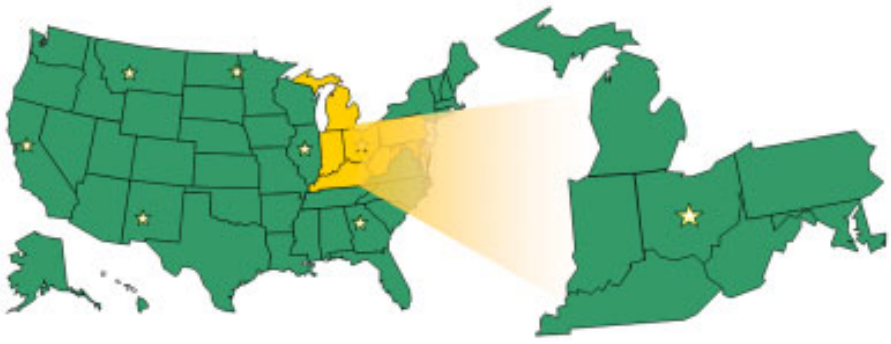
To identify green house gas sources in the partnership's region and determine the technical feasibility and cost of capturing and sequestering these emissions in deep geologic formations and in forests and agriculturally degraded land systems

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 CO_2 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 CO_2 sequestration. This project will determine whether there is a cost-effective way to reduce CO_2 emissions in the high-emissions Illinois Basin region.



Midwest Regional Carbon Sequestration Partnership - (Region 1)