PROJECT facts

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

Sequestration

02/2004

SOUTHWEST REGIONAL PARTNERSHIP FOR CARBON SEQUESTRATION

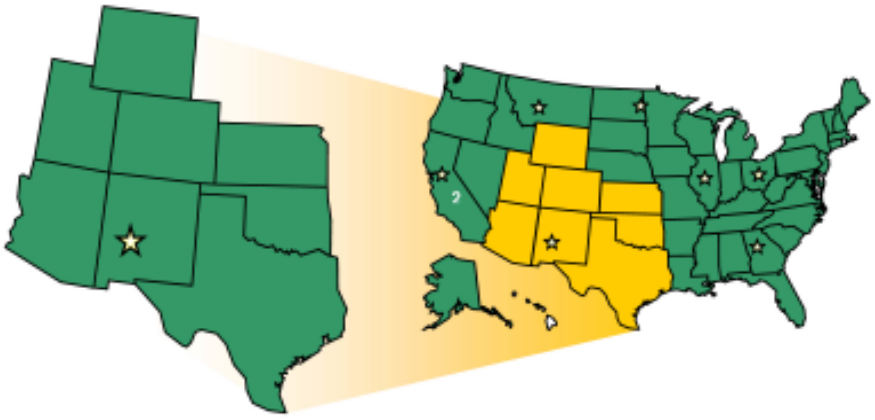
Background

The U.S. Department of Energy has selected the 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

The Southwest Regional Partnership for Carbon Sequestration (SRPCS), led by the New Mexico Institute of Mining and Technology, Socorro, NM, will disseminate existing regulatory/permitting requirements, assess the most appropriate sequestration strategies, and evaluate and rank sequestration technologies for CO_2 capture and storage in the Southwest region, which includes Arizona, Colorado, New Mexico, Oklahoma, and Utah. In the Southwest Region, over 95% of CO_2 emissions result from fossil fuel combustion, and about half of these emissions are from power plants. Geologic storage options include coal beds, natural gas and



Midwest Regional Carbon Sequestration Partnership - (Region 4)

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COST

Length of Contract:
24 Months

Total Project Value:
$2,145,506

DOE/Non-DOE Share:
$1,600,000/ $545,506

CO_2 fields, depleted and marginal oil fields, and deep saline aquifers. One option the partnership will explore is the viability of supplanting the CO_2 currently produced from natural CO_2 reservoirs, used for enhanced oil and natural gas recovery, with anthropogenic power plant CO_2. The presence of CO_2 pipelines may improve the viability of this possibility. Although terrestrial CO_2 sequestration appears to be a viable alternative in several parts of the Southwest Region, low rainfall in some areas may decrease the value of this option.

A website network will be set up to share information, store data, and help with decision-making and future management of carbon sequestration in the region. Over twenty partners, including the Navajo nation, state geologic surveys, coal, oil and natural gas companies, utilities, technology companies, and universities, make up this partnership.

Primary Project Goal

The goal of this project is to develop a sequestration strategy for the region, subject to the constraints unique to the Southwest, such as water resource availability. The assessment will not only identify the available technologies on which the strategy relies, but will also determine technological gaps.

Objectives

- To prepare a comprehensive assessment of the CO_2 sequestration aspects of the region, including sources, sinks, transport, sequestration options, and existing and future infrastructure requirements.
- To identify and address sequestration implementation issues.
- To initiate public outreach and assess public acceptance of CO_2 sequestration.
- To identify and rank sequestration options for the Southwest region.

Benefits

This project will benefit the U.S. by providing a comprehensive assessment of the sources and potential sinks for CO_2 in the Southwest region. This data can be integrated with the data from other partnerships to provide a data base covering the entire nation. This effort will also provide information to evaluate potential pilot sequestration projects in the Southwest.

PARTNERS

New Mexico Institute of Mining and Technology

Western Governors Association

Advanced Resources International

Bureau of Economic Geology
University of Texas at Austin

Burlington Resources Center for Energy and Economic Development

ChevronTexaco ERTC

ChevronTexaco Permian Business Unit

ConocoPhillips

Intermountain Power Agency

Interstate Oil and Gas Compact Commission

Kansas Geological Survey

Kinder Morgan CO_2

Marathon Oil Company

McNeill Technologies

Navajo Nation

Nevada Bureau of Mines & Geology

Oklahoma Gas and Electric

Oxy Permian Ltd.

PacifiCorp

Public Service Co. of New Mexico

Tucson Electric Power Company

WERC

Wyoming State Geological Survey

Yates Petroleum Corporation