PROJECT facts

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

Sequestration

03/2005

CARBON DIOXIDE RECOVERY FROM COMBUSTION FLUE GAS USING CARBON-SUPPORTED AMINE SORBENTS

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Background

In Phase I, Advanced Fuel Research, Inc. will initiate development of a novel sorbent for the removal of carbon dioxide from combustion/incineration flue gas. The sorbent, based on amines supported on low-cost activated carbon, will be produced from scrap tires. Liquid-based amine systems are limited to relatively low concentrations to avoid corrosion. Corrosion should not be a problem with a supported amine.

Primary Project Goal

The primary goal of this project is to develop a process using a supported amine for CO_2 recovery that exhibits better system efficiency, lower cost, and less corrosion than current liquid amine-based processes.

Objectives

The objective is to develop a process using a supported amine as a sorbent. Such a process should avoid some of the problems inherent in liquid-phase amine processes.

CUSTOMER SERVICE

1-800-553-7681

WEBSITE

www.netl.doe.gov

PARTNERS

Advanced Fuel Research, Inc.

COST

Total Project Value
$99,969

DOE/Non-DOE Share
$99,969/$0

Benefits

The United States has set a goal of reducing the CO_2 emissions intensity of economic activity (pounds of CO_2 emitted per dollar of GDP) by 18% by 2012. In order to meet this goal, new CO_2 capture processes need to be developed. Although existing processes are technically capable of recovering CO_2 from stack gases, they are too expensive to be deployed without seriously impacting our economy. If successful, this project could advance our efforts to achieve our CO_2 emissions goal.