



Project Title: **Sustainable Energy Parks on Mine-Scarred Lands in Appalachia**

Recipient: West Virginia University Project No. BF - 09

Project Personnel: Paul Ziemkiewicz, Director, WVWRI, Principal Investigator
(304) 293-2867 x 5441, paul.ziemkiewicz@mail.wvu.edu
Rick Herd, Program Coordinator, WVWRI, Mine Lands and Energy
(304) 293-2867 x 5442, richard.herd@mail.wvu.edu
Tamara Vandivort, Program Coordinator, WVWRI, Project Management
(304) 293-2867 x 5448, tamara.vandivort@mail.wvu.edu
Jennifer Fulton, Program Coordinator, GIS/Mapping
(304) 293-2867 x 5457, jbfulton@mail.wvu.edu
Julie Svetlik, Research Associate, Resource Economics
(304) 293-2867 x 5468, julie.svetlik@mail.wvu.edu
Patrick Kirby, Program Coordinator, Brownfields and Community Outreach
(304) 293-2867 x 5459, patrick.kirby@mail.wvu.edu
David Saville, Outreach Coordinator, WVWRI, Project Outreach
(304) 293-2867 x 5458, dave.saville@mail.wvu.edu
Kasey Russell, Community Development and Outreach Consultant
(304) 542-1994, russell.kasey@gmail.com

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Project Description:

This pilot program will develop a framework for the establishment of Sustainable Energy Parks (SEPs) on mine-scarred lands in Appalachia. SEPs will be beneficial to the environment and mining communities in many ways, as well as help meet several objectives of the EPA's strategic plan. Beneficial outcomes of the project include the production of renewable energy, the reduction of greenhouse gas emissions, protection and restoration of water quality, restoration of degraded lands, diversification of our energy portfolio through the use of renewable energy resources and enhancement of the region's economic competitiveness.

Initially, the West Virginia Water Research Institute will identify mine-scarred lands suitable for the growing of switchgrass as biomass to produce alternative transportation fuels, electricity and heat. Additional consideration will be given to the potential of other forms of alternative energy generation such as wind, solar and geothermal. As a sustainable reuse of brownfields, these SEPs will provide a catalyst to foster a "green" energy companion to coal in Appalachia.

Switchgrass is a superior plant for bio-fuel production for many reasons. It will grow in many areas of the United States, offers high yields, efficiently uses available soil nutrients, is perennial, and requires no irrigation. It captures carbon from the air and stores it in the soil and is an efficient energy producer. Because it has a large and very deep root structure it holds soil thus reducing erosion and its high evapotranspiration rate further reduces runoff when planted on former mining sites. It has a flexible harvesting schedule and can be grown and harvested using conventional farming equipment.

Sites will be evaluated and assessed for their SEP potential. The preferred project location will take advantage of existing infrastructure such as transportation, a large contiguous land mass and a labor force familiar with processing natural resources. One selected site will then be developed and showcased as a pilot SEP project.