

Regional Partnerships in Terrestrial Carbon Sequestration



*A “Hands-On”
Workshop for the
Appalachian Coal
and Electric Utilities
Industries
November 6-7, 2001*

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DOE's Sequestration Program

Office of Fossil Energy

- Separation and capture
- Terrestrial ecosystems
- Geologic sequestration
- Ocean sequestration
- Conversion and reuse
- Modeling and assessments

Office of Science

- Geologic sequestration
- Enhanced carbon sequestration in terrestrial ecosystems (CSiTE)
- Ocean carbon sequestration (DOCS)
- Sequencing genomes of microorganisms
- Advanced chemical and biological processes

**Research
coordination**

Applied R&D

Basic Science



Recognize Limits of Terrestrial Carbon Sequestration



- Limit to the amount of carbon that can be stored
- Details about the carbon cycle that we don't yet understand
- Uncertainty surrounds prediction of potential carbon storage in terrestrial ecosystems
- There is a potential for rapid losses of carbon by natural occurrences (fire, wind, etc.)

Why We Should Explore Terrestrial Sequestration Anyway



- There are many collateral benefits with terrestrial sequestration
- Terrestrial Sequestration is easy to implement--it's the “low hanging fruit” among sequestration technologies
- Terrestrial Sequestration is already economically feasible
- Estimated storage could cover 50% of projected CO₂ excess (Jacobs et. al, 2001)

Who Is Here?



- **Soil Scientists**
- **Foresters**
- **Ecologists**
- **Regulatory Agencies**
- **Utility Representatives**
- **Mining Company Representatives**
- **Conservation Organizations**
- **Federal Agencies**
 - Department of Energy
 - U.S. Forest Service
 - Office of Surface Mining

Walk a Mile in Someone Else's Shoes...

