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# Virginia Center for Coal and Energy Research



[www.energy.vt.edu](http://www.energy.vt.edu)

Energy Policy  
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Virtual Reality Training  
Geo-Environmental Engineering  
Coal Mining Technologies  
Carbon Sequestration Applications  
International Energy Issues  
3-D Mine Visualization Techniques  
Coalbed Methane Technologies  
Sustainable Development Indicators

VCCER Main Office:  
460 Turner St. Suite 304 Box 211  
Blacksburg, VA 24060

An Interdisciplinary Center  
Established by the Commonwealth of Virginia  
Administered by Virginia Tech

## Background

The Virginia Center for Coal and Energy Research (VCCER) was created by an act of the Virginia General Assembly on March 30, 1977, as an interdisciplinary study, research, information, and resource facility for the Commonwealth of Virginia.

The VCCER is administered by Virginia Tech as a University Center because of its intercollegiate character and because the mandate of the Center encompasses the three missions of the University—instruction, research and outreach.

As a result of its legislative mandate and a quarter of a century of experience, the mission of the VCCER involves four primary functions:

- Research in interdisciplinary energy and coal related issues of interest to the Commonwealth
- Coordination of coal and energy research at Virginia Tech
- Dissemination of coal and energy research information and data to the public, government and industry, particularly within the Commonwealth of Virginia
- Examination of socio-economic implications of energy and coal development and associated environmental impacts

The Virginia Center for Coal and Energy Research works with a wide range of academic disciplines and units within Virginia Tech and has access to university resources and facilities.

## Activities

**Research** The Virginia Center for Coal and Energy Research conducts and coordinates research for the Virginia General Assembly, state utilities and other corporate, government and academic sponsors. Typical areas of study include energy statistics and modeling, socio-economic effects of energy and coal development, environmental impacts of coal and energy, sustainable development of energy and mineral resources, carbon management and sequestration, optimization of mining systems, energy efficiency studies, coalbed methane extraction and utilization, energy infrastructure studies and innovative training programs using virtual reality. The Center also has strong interests in issues concerning global energy development, greenhouse gas emissions and deregulation of the electric utility industry.

**Education** Faculty members affiliated with the center supervise undergraduate and graduate students conducting research and pursuing graduate degrees in areas of interest to the Center. Currently, the VCCER is developing a freshman level course on sustainable development. The VCCER periodically offers short courses and seminars for the continuing education and personal development of professionals in the mining, minerals and energy industries.

**Publications** The VCCER publishes numerous studies and reports that are distributed to interested industries and agencies in the Commonwealth as well as nationally. As a service to the citizens of Virginia, the Center offers an online directory of coal and gas operations in Virginia and access to up-to-date energy production data at [www.energy.vt.edu](http://www.energy.vt.edu).

## Facilities

With offices at the main Virginia Tech campus in Blacksburg, the National Capital Region in Alexandria, and the Southwest Virginia Higher Education Center in Abingdon, the VCCER is poised to respond to state, national, and international energy research needs. The three office locations position the VCCER strategically to develop and deliver energy related graduate programs and professional development courses. The Center has access to excellent laboratory facilities within the Virginia Tech infrastructure and has established the VCCER Virtual Reality Laboratory within the Abingdon office. The Alexandria office offers close proximity to various national and international organizations and government agencies. Furthermore, Center researchers enjoy access to plants, mines and industrial facilities in the Commonwealth for conducting field studies.

## Priorities

The Virginia Center for Coal and Energy Research is developing new programs addressing environmental impacts of energy resources extraction and utilization; public policy issues related to energy, marketing, and transportation of coal; integration of high technology into systems design and education; international energy development; sustainable development issues; carbon management; and deregulation issues. The Center also plans to become increasingly proactive in continuing education and training, particularly using its virtual reality capabilities.