



Power Systems Engineering Research Center

PSERC Seminar

September 2, 2003

The Influence of Large-Scale Wind-Power on Global Climate

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The presentation slides are not available for this seminar. Contact Professor Keith (keith@cmu.edu) directly if you would like a paper on the seminar topic.

Abstract

While the local environmental and aesthetic impacts of wind power have been seriously explored, there has been little assessment of the climatic impacts of wind turbines at any scale. We report numerical simulations using two General Circulation Models that address the possible climatic impacts of wind power at scales from regional to global.

Biography

Professor Keith works near the interface between climate science, energy technology and public policy. His policy work is now focused on the capture and storage of CO₂. The fruits of this effort include analysis of the role of CO₂ capture technologies in electric markets and on the combination of CO₂ capture and biomass energy; overview articles in *Science*, *Nature*, and *Scientific American*; an international workshop in Aspen in July 2000 that brought together about 30 experts on capture technologies, geological and oceanic sequestration, technology policy, and representatives of major environmental organizations; invited presentations for the US National Academies, industry, academia and major environmental organizations; and, interviews on National Public Radio, CNN and various print media.

In addition to the policy work on CO₂ mitigation, Keith's broader climate and energy related research is currently focused on geoengineering, the climatic impacts of large-scale wind power, and on hydrogen as a transportation fuel.

Keith is trained as a physicist. As a graduate student under David Pritchard at MIT, he built the first interferometer for atoms work which was the hottest topic in physics according to ISI's Citation Index algorithms. As an atmospheric scientist, Keith worked at NCAR before joining James Anderson's group at Harvard, where he served as lead scientist for a new Fourier-transform spectrometer with high radiometric accuracy that flies on the NASA ER-2 high-altitude aircraft.