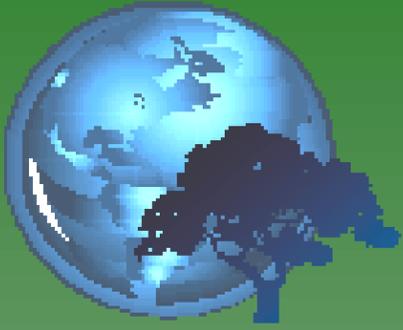


MSEL Sustainability Seminar Series

Climate Change and Energy Security: “The Role of Carbon Management”



Acting Assistant Secretary for Fossil Energy
Department of Energy, Washington DC

May 21, 2009 1:00 pm Employee Lounge
Bldg 101 NIST Gaithersburg MD



The world's demand for energy resources continue to grow and is projected to increase significantly over the next 25 years. The challenge is to make sure that energy demand for our collective energy and economic security while taking care of our environment, especially with regards to climate change. We also expect significant growth in global population that would exacerbate the current situation of over 2 billion people without access to electricity. The fact is that fossil fuels will continue as a dominant resource world wide as energy demand grows. This creates the need to deal with the carbon management issue. There are primarily three ways to address carbon management beyond conservation, since even with conservation energy demand will increase: low or no carbon fuels; efficiency; and carbon sequestration. The focus of this discussion will be on geologic carbon sequestration – the capture, transport, and storage of carbon emissions (known as CCS) in deep geologic formations. This discussion will touch on the current status of the technology; the challenges we face with this approach to carbon management; what tools we have to develop the technology to make it work safely and effectively over the long term; and the ultimate potential of CCS as a carbon management pathway for stabilization of greenhouse gases in the atmosphere.

About the speaker: Dr. Der is the Principal Deputy Assistant Secretary for Fossil Energy at DOE. Dr. Der has worked at DOE for 35 years in various programs. During that period he has directed research programs in fossil energy; nuclear energy; high-level nuclear waste management; and energy research on magnetic fusion energy. Within the fossil energy program he was responsible for directing research and development of central power systems technologies such as gasification, advanced combustion and hydrogen turbines; distributed generation technologies such as fuel cells, fuel cell/turbine hybrids, and novel heat engines and compressors; emissions controls technologies; advanced research, and high efficiency, zero-emissions fossil energy technologies. He was also responsible for directing the large scale demonstration programs such as the Clean Coal Technology Demonstration program; the Power Plant Improvement Initiative; and Clean coal Power Initiative. He was also Program Director for FutureGen- a zero emissions coal-based research prototype plant. His prior work includes NASA's Apollo 15 moon mission project and the National Oceanographic and Atmospheric Agency program on upper atmospheric density modeling. His education includes a Bachelor of Science, Master of Science and Ph.D. in Mechanical Engineering from the University of Maryland.

For further information, contact Winnie Wong-Ng, x 5791, winnie.wong-ng@nist.gov



Organizing Committee

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