ENVIRONMENTAL AND ENERGY STUDY INSTITUTE

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NOTICE

Climate Change Post-2100: What are the Implications of Continued Greenhouse Gas Buildup?

Tuesday, September 21, 2004
2:00-3:30 p.m., 124 Dirksen Senate Office Building

The Environmental and Energy Study Institute (EESI) invites you to a Congressional briefing addressing the climate change implications of exceeding a doubling of carbon dioxide in the atmosphere from pre-industrial levels (prior to the start of the Industrial Revolution). The concentration of carbon dioxide (CO2), one of the main heat-trapping greenhouse gases responsible for global warming, in the lower atmosphere is now at its highest level in at least 420,000 years, and likely in the last 20 million years. This stands 32 percent above CO2 levels before the Industrial Revolution. Much of the climate modeling reported in the media focuses on the impacts of a doubling of pre-industrial CO2 before the end of this century. However, given current rates of anthropogenic (manmade) CO2 emissions and lack of policy and technology implementation to significantly reduce these rates, atmospheric CO2 concentrations are unlikely to stabilize at twice pre-industrial levels by the end of the century, and may eventually reach three to four times pre-industrial levels before stabilization is achieved. Several prominent climate research centers around the world are modeling such scenarios. Visualizations of representative scenarios are available on the National Oceanic & Atmospheric Administration (NOAA) website.

The briefing will feature leading climate change experts who will discuss modeling of these CO2-emission scenarios, their potential impacts, and what would be required to avoid emission trajectories that lead to a tripling or quadrupling of greenhouse gas concentrations.

- **Dr. Berrien Moore III**, Director, Institute for the Study of Earth, Oceans, and Space
- **Dr. Gerald A. Meehl**, Senior Scientist, Climate and Global Dynamics Division, National Center for Atmospheric Research
- **Dr. Gerald M. Stokes**, Director, Joint Global Change Research Institute

Expected effects of climate change include: increased frequency of drought, wildfires, and heat waves; increased rainstorm intensity, hurricane intensity, and flooding; melting glaciers; shifts in and even loss of species-specific habitats; global average temperature increases for hundreds of years; sea-level rise for over one thousand years from thermal expansion; potential melting of the West Antarctic ice sheet which could contribute up to 3 meters to sea level rise; potential melting of the entire Greenland ice sheet which could cause an additional 7 meters rise in sea level; and disruption of the global thermohaline (ocean current) circulation, which may cause abrupt climate effects.

Policies and technologies in place today and the near future will be critical in determining the level of atmospheric concentrations of CO2 and associated climate impacts in the near and longer-term future. Legislation to curb carbon dioxide emissions, for example the Climate Stewardship Act (S.139 and HR. 4067), has been introduced in both the House and Senate.

The briefing is open to the public and no reservations are required. Please feel free to forward this notice. For more information, please contact Fred Beck at 202/662-1892 or fbeck@eesi.org.