EPP and Center for Climate and Energy Decision Making

Sponsored Seminar

Peter Adams

Professor

Civil and Environmental Engineering & Engineering and Public Policy

Carnegie Mellon University

Presenting on:

"Crash Course in Air Pollution for Policy Analysts"

September 8th, 2014

12 noon

(Lunch served at 11:50am)

Baker Hall 129 Conference Room

Department of Engineering and Public Policy

Seminar Abstract:

Climate and energy decision-makers frequently need to account for traditional air pollutants in their analyses without having detailed expertise on the subject. Fortunately, a number of tools of varying complexity exist for this purpose. Nonetheless, policy analysts will always do a better job with a basic knowledge of air pollution. In fact, the barriers to using reduced-form air quality impact models are disconcertingly low; in general, the simpler the model, the more it requires the user (and developer) to exercise some judgment over what is or is not appropriate use. The purpose of this seminar is to provide some basic guidance to non-air quality experts to improve the quality of their policy analyses. We will start by reviewing briefly the major classes of air pollutants, their sources, and behavior, with an emphasis on implications for how they should be considered in policy analysis. We will also review the strengths and weaknesses of the major classes of tools for performing air quality impact assessments: chemical transport models, dispersion models, and reduced-form models. We will conclude by showing some recent work funded by CEDM that aims at bridging the gap between the highest complexity tools used by air quality researchers (chemical transport models) and reduced-form approaches required for policy assessments.

Speaker Bio:

Peter Adams is a Professor in the Civil and Environmental Engineering Department and the Engineering and Public Policy Department at Carnegie Mellon University. Prof. Adams's research largely focuses on development of chemical transport models, especially the simulation of aerosol microphysical processes, ultrafine particles and the formation of cloud condensation nuclei in global climate models. Areas of research have also included the effects of climate change on air quality, short-lived climate forcers, atmospheric ammonia and particulate matter formation from livestock operations, and the simulation organic particulate matter. Prof. Adams received the Sheldon K. Friedlander Award for outstanding doctoral thesis from the American Association for Aerosol Research. Dr. Adams received his B.S. degree in Chemical Engineering, summa cum laude, from Cornell University. He was awarded a Hertz Foundation Applied Science Fellowship for graduate study and received M.S. and Ph.D. degrees in Chemical Engineering from the California Institute of Technology. He also holds an associated faculty position in the Chemical Engineering department at Carnegie Mellon.

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