Project:

Demography, uncertainty, and learning in integrated assessment models of climate change

The overall aims of the proposed research are to improve integrated assessment models (IAMs) of climate change and to develop new methods of applying them to the climate change issue. The proposed research will focus on three related aspects of IAMs: (1) advances in the integration of demographics, (2) more systematic accounting for uncertainty, and (3) novel treatments of the potential for learning (i.e., changes in uncertainty over time) within such models. Work will be organized around a set of country case studies that span a range of socio-economic conditions, energy systems, and demographic situations, including the U.S., China, India, Indonesia, Brazil, Germany, Italy, and the U.K. These case studies will then be integrated into a global model to investigate questions at a more aggregate level. Within the demography focus, research will aim to explicitly model links between the major demographic trends of aging, urbanization, and changes in living arrangements, on the one hand, and energy consumption, land use, and associated emissions on the other hand. Within the uncertainty and learning foci, a series of analyses will be undertaken to examine the implications of learning (or changes in uncertainty over time) for sequential decision-making under uncertainty.

Comments:

A very relevant topic, analysing demographic data sets on a more precise level in a more complex integrated assessment model.

An American top-researcher working in Vienna, experienced research leader, thinking in multiple, different, and complex models.

The main focus is on household composition as the most universal variable, but not dealt with as the exclusive one. The integration of various large data sets on a global scale will lead to the formulation of scenarios, to be tested to the learning and decision-making process.

Excellent facilities available, experienced group. The team has already been composed.

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