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VORTRAGSANKÜNDIGUNG

Im Rahmen unseres gemeinsamen Oberseminars

„Numerische Mathematik, Optimierung und Dynamische Systeme“

spricht

Herr **Prof. Dr. Christopher Kellett**
International Senior Fellow der Universität Bayreuth
University of Newcastle, Australia

am **Montag, 17. Juli 2017**, 16:00 Uhr c. t. über das Thema

“The Social Cost of Carbon Dioxide - Mitigating Global Warming Whilst Avoiding Economic Collapse”

Abstract:

Many governments and international finance organizations use a carbon price in cost-benefit analyses, emissions trading schemes, quantification of energy subsidies, and modelling the impact of climate change on financial assets. The most commonly used value in this context is the social cost of carbon dioxide (SC-CO₂). Users of the social cost of carbon dioxide include the US, UK, German, and other governments, as well as organizations such as the World Bank, the International Monetary Fund, and Citigroup. Consequently, the social cost of carbon dioxide is a key factor driving worldwide investment decisions worth many trillions of dollars.

The social cost of carbon dioxide is derived using integrated assessment models that combine simplified models of the climate and the economy. One of three dominant models used in the calculation of the social cost of carbon dioxide is the Dynamic Integrated model of Climate and the Economy, or DICE. DICE contains approximately 70 parameters as well as several "exogenous" driving signals such as population growth and a measure of technological progress. Given the quantity of finance tied up in a figure derived from this simple highly parameterized model, understanding uncertainty in the model and capturing its effects on the social cost of carbon dioxide is of paramount importance. Indeed, in late January this year the US National Academies of Sciences, Engineering, and Medicine released a report calling for discussion on "the various types of uncertainty in the overall SC-CO₂ estimation approach" and addressing "how different models used in SC-CO₂ estimation capture uncertainty."

This talk, which focuses on the DICE model, essentially consists of two parts. In Part One, I will describe the social cost of carbon dioxide and the DICE model at a high-level, and will present some interesting preliminary results relating to uncertainty and the impact of realistic constraints on emissions mitigation efforts. Part one will be accessible to a broad audience and will not require any specific technical background knowledge. In Part Two, I will provide a more detailed description of the DICE model, describe precisely how the social cost of carbon dioxide is calculated, and indicate ongoing developments aimed at improving estimates of the social cost of carbon dioxide.

Der Vortrag findet im S 80, Gebäude NW II statt.

gez. Lars Grüne