WWTF Project MA09-019

Energy Policies and Risk Management for the 21st Century

Abstract

The aim of the project is to investigate the mathematics of decision making under uncertainty in the energy sector. Integrating the economic perspective with mathematical methods from econometrics and multistage stochastic optimization and accounting for uncertainty, we will analyze the decision problems of policy making as well as the decision making of individual firms. Regarding mathematical methodology, our work will be targeted not only on applying existing methods but also on generating new mathematical insights and algorithmic approaches in the fields of stochastic optimization, econometrics and (stochastic) game theory. Three intitutes will cooperate in these scientific efforts: The Department of Statistics and Decision Support Systems (DSDS), the Department for Industry, Energy and Environment (IEU, both University of Vienna) and the Institute for Operations Research and Computational Finance (IORCF, Hochschule St. Gallen). In addition, some practical aspects will be discussed and developed together with Siemens AG Austria.

Keywords:
Stochastic Dynamic Optimization, Stochastic Equilibrium Models, Energy Markets, EmissionMarkets, Energy Economics

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Further links about the involved persons and regarding the project you can find at
https://archiv.wwtf.at/programmes/mathematics/MA09-019