



GHG Emissions and mitigation cost uncertainty

M. Webster, S. Paltsev, J. Reilly, and A. Sokolov

Joint Program on the Science and Policy of Global Change, Massachusetts Institute of Technology, Cambridge, MA 02139, USA (mailto: sokolov@mit.edu)

Future anthropogenic emissions are a significant uncertainty in projecting future climate change absent a specific target on GHG emissions. The uncertainty derives from uncertainties in economic growth, resource availability, population growth, and the cost and availability of technologies. Emissions uncertainty can contribute as much uncertainty to future projections as the uncertainty in earth system response. The world acting together can set a target removing emissions uncertainty, assuming the target is met with certainty. However, the cost of meeting that target will then vary depending on many of the same factors that contributed to emissions uncertainty. We consider the uncertainty in emissions absent policy, the uncertainty in cost for specific emissions targets, and the most important factors contributing to these uncertainties using the MIT Integrated Global Systems Model (IGSM) focusing particularly on its economic sub-module, the Emissions Prediction and Policy Analysis (EPPA) model.