

Description for the general public

The project will provide climate assessment models with realistic behavioral foundations, by incorporating into existing models a variety of behavioral tendencies and biases. New models will be developed, which account for heterogeneity and bounded rationality of agents. So far, the analysis of climate policies relies on the model, which assumes that people act as perfect utility maximizers. Empirical evidence shows that the model is an invalid description of how people actually behave. Many behavioral models have been proposed so far, which incorporate into economic theory a variety of realistic behaviors. Recently, such models have been increasingly used in macroeconomics. It has been shown that they can explain empirical macro phenomena beyond a rational-agent model. However, so far, behavioral-macro models have not been used for the assessment of climate policies. In this project, we will study how the estimates of the social cost of carbon (SCC) differ under a variety of behavioral assumptions, as well how behavioral tendencies may undermine the effectiveness of climate policies. For instance, the SCC is an estimate of the economic damages associated with a small increase in carbon dioxide (CO₂) emissions or it represents the value of damages avoided for a small emission reduction. U.S. Environmental Protection Agency and the EU Commission rely on the social cost of carbon (SCC) to estimate the benefits and costs of environmental policies. We will compare our findings to existing estimates, and evaluate when behavioral failures may undermine the effectiveness of climate policies.