The Economics of Climate Policy

Prof. Ottmar Edenhofer

www.bit.do/climatepolicy

The Economics of Climate Policy is an introductory course into the economics of climate change mitigation and adaptation policies. Essentially, the mitigation of climate change is a global public good, posing policy challenges both at the national level (within countries) as well as at the international level (between countries). In the course, concepts such as market failures, externalities, and Pigouvian taxes are developed and applied to climate change. Game theory will be introduced to understand the challenges in international climate negotiations. The history and status quo of international negotiations will be reviewed, as well as implementation policies such as the EU ETS and Germany's Energiewende. Since these concepts can be applied to many public policy problems, the course is also an introduction into allocation theory, environmental economics, public finance and game theory.

The Economics of Climate Policy is taught in the winter semester. In the summer semester, there is a complementary course on The Economics of Climate *Change*. That course takes a social planner perspective, focusing on cost-benefit analysis, welfare and growth theory, and mitigation options.

Lecture and tutorial: The course consists of a lecture and a tutorial. The lecture provides reasoning, theory, and the narrative. The tutorial provides analytical concepts, formal models, and mathematical techniques. Lecture and tutorial are complementary, and most students prefer to take both. However, for students that are not interested in formal approaches, there is also the option to attend only the lecture. Hence we offer two modules:

- "The Economics of Climate Policy": lecture and tutorial, 6 ECTS, module number 60773.
- "The Economics of Climate Policy – lecture only": 3 ECTS, module number 60774.

Grading: Students will be graded based on weekly problem sets (homework assignments) and a mid-term exam; there is no final exam. Make sure you attend the course from the beginning on, as we start with assignments immediately. Ph.D. students will be asked to write a term paper in addition to the assignments.

Prerequisites: The course is an advanced Master-level and PhD-level course. At least basic knowledge of micro- and macroeconomics is expected, as well as good command of standard mathematical techniques including taking derivatives, integration and the concept of differential equation. Taking a class in environmental economics prior to this course is recommended. Students without a background in economics are asked to become familiar with these concepts prior to the semester.

Registration: No registration is required prior to the start of the course. We also welcome students from HU, FU, Potsdam, and Gasthörer. There is no restriction on Wahlfach- or Zusatzmodul-students. Please submit your contact details here to receive the course material: http://goo.gl/forms/RBtYKu8JKt

Course material: Once you have registered, we will put you on our email list and provide you with access to a dropbox folder. Course material, such as slides and assignments, will be provided via dropbox. Assignments can be submitted electronically or handed in in class.

Time and date: The lecture takes place Fridays 14 – 16; the tutorial Mondays 10 – 12. Dates and venues: LSF.

Wahlpflicht: You can always attend the class as "freies Wahlfach" or as "Zusatzmodul". The following programs accept the course as "Wahlpflichtfach" (not all programs accept the 3 ECTS-version of the course):

- Wirtschaftsingenieurwesen MSc (alle Richtungen)
- Industrial and Network Economics MSc (MINE)
- Environmental Policy and Planning MSc
- Umweltplanung / Environmental Planning MSc
- Wirtschaftsmathematik MSc
- Wirtschaftsinformatik MSc
- Energie- und Verfahrenstechnik MSc
- BDPEMS Ph.D.
- DIW Graduate Center Ph.D.

Topics: Along the lines of the Stern Review and the IPCC fifth assessment report, we provide a systematic overview of the relevant issues in climate change policy. This includes, inter alia:

- The international politics of climate change: the history and status quo of UNFCCC climate negotiations from Rio to Kyoto and Paris
- Climate change as an externality: classical internalization options such as Pigouvian tax and cap and trade systems
- Non-classical approaches such as Elinor Ostrom's Governing the Commons
- Why reaching a climate agreement is so difficult: climate stabilization as a global public good
- Unilateral incentives for countries to reduce emissions: co-benefits and the double dividend
- Game-theoretic view of climate change as a public good and collective action problem
- Nationals and regional policies today: The European Union Emission Trading scheme (EU ETS), Germany's Energiewende, and the U.S. EPA approach

Obligatory readings (along with the course)

- Perman et al.: Natural Resource and Environmental Economics, Pearson. online (older edition)
- Stern Review, part IV – VI
- IPCC AR5 WG III, chapters 13-15
- Edenhofer et al.: The Atmosphere as a Global Common - Challenges for International Cooperation and Governance, Handbook of the Macroeconomics of Global Warming
- A number of specific articles will be distributed during the semester. Students are expected to read about one paper per week.

Recommended readings (to prepare for the course)

- Fudenberg & Tirole: Game theory, MIT Press.
- The timeline of UNFCCC climate negotiations.

If you have questions, please contact Lion Hirth (teaching [at] mcc-berlin.net).

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