2017-2018

Nom du cours / Name of the course:
The Economics of Energy and the Environment

Enseignant / Professor:
Jan Horst Keppler

Contact de l’enseignant / Contact Information (Optional)
Email: jan-horst.keppler@dauphine.fr

Langue d’enseignement / Language:
French or English, depending on composition of class

Overview:
The class will provide students with an overview of key concepts in both environmental economics and energy economics with a special focus on the performance of European electricity markets. The class will develop those notions in a framework alternating between private and social utility maximisation.

Prérequis / Prerequisites (optional)
Admission to the master 2 « Energie, finance, carbone »

Objectifs du cours / Course Objectives:
The class should enable students to apply the most important notions of environmental and energy economics to basic policy analysis.

Mode d’évaluation / Mode of Assessment
Written exam
# Planning / Course Schedule

| 1 | Externalities, Fixed Costs and Information  
|   | a. Private and public goods  
|   | b. Externalities  
|   | c. Informational complexity and transaction costs  
|   | d. The role of governments  
| 2 | The Static Model of Optimal Internalisation of Externalities I  
|   | a. The Pigouvian approach  
|   | b. Instruments for Internalisation  
|   | c. The Working of Emissions Markets  
| 3 | The Static Model of Optimal Internalisation of Externalities III  
|   | a. The distributional implications of the static model  
|   | b. Grandfathering versus auctioning  
|   | c. Risk, uncertainty and option value  
| 4 | The Measurement of Externalities I  
|   | a. Measuring Abatement Cost  
|   | b. Measuring Social Costs (including loss of option value)  
| 5 | The Measurement of Externalities II  
|   | a. Distributional implications of environmental policies  
|   | b. The Coasean critique (Coase against Coase)  
|   | c. The Rebound Effect  
| 6 | Energy and Sustainable Development  
|   | a. Sustainable development in the energy sector  
|   | b. Energy efficiency and the rebound effect  
|   | c. World energy perspectives  
| 7 | Electricity Markets  
|   | a. The functioning of electricity markets and price formation  
|   | b. The investment challenge and the capacity issue  
| 8 | Topics in electricity markets  
|   | a. Projected costs of generating electricity  
|   | b. Carbon pricing  
|   | c. System effects  
| 9 | The Interaction of Carbon and Electricity Markets  
|   | a. Theories of price formation in the carbon market  
|   | b. Causality between CO2 prices and energy variables  
|   | c. Rents of electricity producers due to carbon pricing  

**Bibliographie / Bibliography:**


http://www.ecosystemvaluation.org/dollar_based.htm


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**MyCourse**

This course is on MyCourse: **Yes**

**Grading**

The grade will determined by a final written examination at the end of the semester.  
**Class participation:** Regular attendance is obligatory. Justified absence must be indicated to the instructor *in advance*. Repeated failure to show up in class on time can lead to deductions from the final grade.  
**Exam policy:** Unexcused absences from exams will result in a zero grade.

**Academic integrity**

Be aware of the strict rules at Université Paris-Dauphine about plagiarism and cheating during exams.