MGT-408

Technology policy and the energy transition

Foray Dominique

Cursus	Sem.	Type
Management, Technology and Entrepreneurship minor	H	Opt.
Managmt, tech et entr.	MA1, MA3	Opt.

Language of teaching	English
Credits	2
Session	Winter
Semester	Fall
Exam	During the semester
Workload	60h
Weeks	14
Hours	**2 weekly**
Lecture	1.5 weekly
Number of positions	

Remark

Special schedule. See the MTE website: http://cdm.epfl.ch/mte/study-plan

Summary

This course involves the theoretical and empirical analysis of technology Policy as applied to the issue of energy transition. To address this so-called "Grand Challenge", the combination of market-based instruments with technology policy seems to be of critical importance.

Content

We present a general framework based on the notions of private and social returns of R&D and innovation and market failures. We examine then the various types of interventions by the State both in terms of environmental policy and technology policy as well as the different types of errors that can be done. We clarify the opposition between horizontal and vertical policy and use smart specialisation as an example. We finally apply all these concepts to the problems of climate change and energy transition

Keywords

technology policy, private and social returns of R&D, market failures, vertical and horizontal policy, smart specialisation, market-based instruments, climate change

Learning Prerequisites

Recommended courses

Principles of Microeconomics (A. Mack)

Important concepts to start the course

Knowledge externalities
Market failures
Environmental externalities

Learning Outcomes

By the end of the course, the student must be able to:

- Analyze market failures situations
- Argue cases of economic policy
- Compare national policies

- Assess / Evaluate the efficeincy of policy solutions

Transversal skills

- Access and evaluate appropriate sources of information.
- Make an oral presentation.
- Plan and carry out activities in a way which makes optimal use of available time and other resources.

Teaching methods

Formal teaching, team work

Expected student activities

Preparation of oral presentation, writing of a document

Assessment methods

Continuous assessment combining:
25% class participation
75% final project and presentation during the semester

Resources

Bibliography

To be provided at the first session