**Technology policy and the energy transition**

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<th>Cursus</th>
<th>Sem.</th>
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<td>Managmt, tech et entr.</td>
<td>MA1, MA3</td>
<td>Opt.</td>
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**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 efficiency 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% individual work
75% final project

Resources

Bibliography
To be provided at the first session