

ENV-724

Climate economics for Engineers

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Cursus	Sem.	Type
Civil & Environmental Engineering		Opt.

Language of teaching	English
Credits	2
Session	
Exam	Written
Workload	60h
Hours	27
Courses	26
Exercises	1
Number of positions	

Frequency

Every 2 years

Remark

Next time: Fall 2022, Min. 5 persons

Summary

The course introduces non economists to the economic analysis of climate change: economic activity and climate change, estimation of climate impacts, optimal mitigation and adaptation, national and international climate policy, instruments for climate policy.

Content

Economic activity as a source of greenhouse gases, climate scenarios
 Impacts of climate change: valuation and uncertainty, net costs (aggregation, intergenerational discounting)
 Adaptation to climate change
 Mitigation: mitigation as a public good, efficiency and sufficiency, abatement measures, marginal abatement cost curves, innovation
 Solar radiation management: economics and governance
 Instruments for climate policy: voluntary approaches, regulation, economic instruments
 Climate policy: Swiss climate policy, international climate policy, prisoner's dilemma, cooperation, climate risk mitigation game

Keywords

climate change
 economics

Learning Prerequisites**Recommended courses**

Env-620 "Environmental Economics for Engineers"

Learning Outcomes

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

- to explain how economic activities contribute to climate change
- to develop the economic analysis of the main instruments of climate policy
- to explain the main dimensions of climate policy 'games'

Assessment methods

Success in the course requires:

- a) regular attendance; a justified explanation is required for missed classes
- b) active participation in class
- c) an oral presentation with slides during the last class

Resources**Bibliography**

Stern, N. (2015) Why Are We Waiting? The Logic, Urgency, and Promise of Tackling Climate Change. Cambridge, MA, USA, MIT Press

OECD (2009) The Economics of Climate Change Mitigation: Policies and Options for Global Action Beyond 2012, Paris, France: OECD

Ressources en bibliothèque

- [Stern, N. \(2015\) Why Are We Waiting? The Logic, Urgency, and Promise of Tackling Climate Change](#)
- [OECD \(2009\) The Economics of Climate Change Mitigation: Policies and Options for Global Action Beyond 2012](#)

Moodle Link

- <https://moodle.epfl.ch/course/view.php?id=16391>

Videos

- <https://tube.switch.ch/channels/5bda1b7c>