University of Essex, Department of Economics

EC383 Environmental Economics

Autumn 2025

Module Supervisor: **Dr Shunsuke Tsuda** shunsuke.tsuda@essex.ac.uk

Last Updated: October 1, 2025

Meetings

Lectures: Tuesdays 4pm-6pm at LTB10 (Week 2-11)
Classes: Fridays 9am-10am at STEM3.1 (Week 3, 5, 7, 9, 11)
Office hours: See Moodle.

Module Description

This module covers the theory of environmental and resource economics. Topics include the economics of market failures, how to set the targets of pollution, what are the main instruments to fight pollution, the tragedy of the commons, non-renewable and renewable natural resource extractions, groundwater markets and governance, forest conservation, climate change, and environmental considerations in economic geography. This module equips you with a basic theoretical framework to analyze environmental policy issues and introduces frontier academic research on these topics, with particular emphasis on real-world problems in developing economies.

Learning Goals:

By the end of this module, students will be expected to be able to:

- Apply microeconomic theory to environmental policy issues and critically evaluate when and how government and market-based solutions to them are effective
- State the key environmental problems in developing countries and understand their possible causes and consequences
- Read and digest empirical research papers in environmental and resource economics, and understand their economic intuitions and policy implications

Main Textbook

The lectures will follow the textbook:
Perman, R. et al., *Natural Resource and Environmental Economics*, Fourth Edition, Pearson, 2011.
Other readings are listed below and additional readings may also be announced during the module.

Assessment and Feedback

The final mark will be the average between (i) the online assessment and (ii) the final exam mark.

Topics and Readings

Week 2: Introduction (Economic Development and the Environment); Market Failures

Required readings: Fullerton and Stavins (1998); Jayachandran (2022); Perman et al. Ch. 4
Optional readings: Barrett et al. (2023); Dasgupta (2010); Greenstone and Jack (2015)

Week 3-4: Pollution Targets; Pollution across Space

Required readings: Perman et al. Ch. 5, Ch. 16.4
Optional readings: Aldeco et al. (2021)

Week 5-6: Pollution Instruments; Pollution Polocy with Imperfect Information

Required readings: Perman et al. Ch. 6, Ch. 7
Optional readings: Duflo et al. (2013); Greenstone et al. (2023)

Week 7: Causes and Consequences of Air and Water Pollution

Required readings: Garg et al. (2023); Greenstone and Hanna (2014); Lipscomb and Mobarak (2016)
Optional readings: Jack et al. (2022); Jayachandran (2009); Khanna et al. (2021); Oliva (2015)

Week 8: The Tragedy of the Commons

Required readings: Hardin (1968); Bardhan and Udry (1999) Ch. 13; Wydick (2007) Ch. 4; Rustagi et al. (2010); Ryan and Sudarshan (2022)
Optional readings: Perman et al. Ch. 9; Cheung (1970); Dasgupta and Mäler (1995); Dietz et al. (2003); Gordon (1954); Ostrom (1990); Seabright (1993); Bardhan (2000); Coppock et al. (2022); Edmonds (2002); Haseeb (2024); Kremer et al. (2011); Kosfeld and Rustagi (2015); Mazur (2023)

Week 9: Non-Renewable Resources; Groundwater Markets and Governance

Required readings: Perman et al. Ch. 15; Jacoby (2017); Jacoby et al. (2004); Chakravorty et al. (2023); Sekhri (2011)
Optional readings: Chakravorty et al. (2008); Anderson (2011); Bhogale and Khedgikar (2022); Blakeslee et al. (2020); Foster and Rosenzweig (2008); Fishman et al. (2023); Giné and Jacoby (2020); O'Keeffe-O'Donovan (2022)

Week 10: Renewable Resources; Forests

Required readings: Perman et al. Ch. 17; Balboni et al. (2023); Jayachandran (2023); Jayachandran et al. (2017); Alix-Garcia et al. (2013); Abman et al. (2023); Szerman et al. (2022)
Optional readings: Noack and Costello (2024); Angelsen (1999); Brander and Taylor (1998); Foster et al. (2002); Tsuda et al. (2023); Burgess et al. (2023); Burgess et al. (2012); Perman et al. Ch. 18

Week 11: Climate Change, Economic Geography, and the Environment

Required readings: Balboni (2019); Conte (2022); Jedwab et al. (2022); Tsuda et al. (2023)
Optional readings: Burgess et al. (2017); Kala et al. (2023); Morgan et al. (2022); Schlenker and Lobell (2010); Zhao et al. (2017); Burke et al. (2015); Hsiang et al. (2013); Eberle et al. (2020); McGuirk and Nunn (2020)

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Aldeco, Lorenzo, Lint Barrage, and Matthew A. Turner, "Equilibrium particulate exposure," Technical Report, working paper 2021.

Alix-Garcia, Jennifer, Craig McIntosh, Katharine RE Sims, and Jarrod R Welch, "The ecological footprint of poverty alleviation: evidence from Mexico's Oportunidades program," *Review of Economics and Statistics*, 2013, *95* (2), 417–435.

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