

ECON4910 Environmental Economics

Syllabus: Preliminary - This version: February 12th, 2019

Time: Mondays 14:15-16 and Fridays 8:15-10.

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Courseweb www.uio.no/studier/emner/sv/oekonomi/ECON4910/v19

Content: The course will cover the fundamental problems and methods in environmental economics: Market failures, the Coase theorem, policy instruments, pollution permit trading, cost-benefit analyses, trade and the environment, international environmental problems, international agreements, climate change, deforestation, discounting, and integrated assessment models.

Readings: By “Ch” we refer to chapters in the main text book: Phaneuf, D. J og Requate, T: *A Course in Environmental Economics: Theory, Policy, and Practice*, 2016. ISBN: 9780521178693.

Lecture notes and articles will be used in addition (see below).

1. 14/1: Welfare theorems, externalities, Pigou taxes (BH)

Ch 1, 2, and 3, and Sandmo (1975).

2. 18/1: Policy Instruments: Coase Theorem (BH)

Ch 4, and Coase (1960)

3. 8/2: Tradable permits and prices vs. quantities

Ch 8, Montgomery (1972), Schmalensee (2013), Weitzman (1974)

4. 11/2: International Trade and the environment (BH)

Oates and Schwab (1988)

5. 25/2: International Environmental Problems: Repeated Games (BH)

Ch 12, and lecture notes

6. 4/3: International Environmental Agreements: Dynamic Games (BH)

Ch 13, and lecture notes

7. 8/3: International Environmental Agreements: Dynamic Games (BH)

Ch 13, and lecture notes

8. 18/3: International Environmental Agreements: Free riding vs Participation (BH)

Lecture notes

9. 22/3: Supply-side vs. Demand-side Environmental Policy (BH)

Hoel (1994), Golombek, Hagem, and Hoel (1995), Harstad (2012), and perhaps lecture notes

10. 25/3: Deforestation and REDD

Lecture notes

11. 1/4: The value of the future: Discounting (BH)

Ch 21, Weitzman (1998), Karp (2005), and lecture notes.

12. 8/4: Integrated Assessment of Climate Change I (DICE) (CT)

Nordhaus & Sztorc (2013, dicemodel.net) and Sterner & Persson (2008)

13. 29/4: Integrated Assessment of Climate Change II (CT)

Lemoine, D. & C. Traeger (2014) and Traeger (2017).

Articles [to be updated]

Note: Main syllabus is the lectures, the lecture notes (which will be posted before the classes) and the seminars. The articles and the books are meant as support.

@ = material found online

@ Barrett, S., *The theory of international environmental agreements*, in Maler, K. G. and Vincent, J., (eds.), *Handbook of Environmental Economics*, 2005. Burlington: Elsevier Science, ISBN: 9786610633760

@ Coase, R. H., *The problem of social cost*, 2016. *The Journal of Law & Economics*, 56(4): 837-877.

@ Golombek, R., Hagem, C., and Hoel, M., *Efficient incomplete international climate agreements*, 1995. *Resource and Energy Economics*, 17(1): 25-46.

@ Harstad, B., *Buy coal! A case for supply-side environmental policy*, 2012. *Journal of Political Economy*, 120(1): 7-115.

@ Hoel, M., "Efficient Climate Policy in the Presence of Free Riders." *J. Environmental Econ. and Management* 27 (3), 1994: 259-74.

@ Karp, L., *Global warming and hyperbolic discounting*, 2005. *Journal of Public Economics*, 89(2): 261-282.

@ Lemoine, D. & C. Traeger (2014), *Watch Your Step - Optimal Policy in a Tipping Climate*, *AEJ:Policy* 14 6(1): 137-166.

@ Montgomery, W., *Markets in licenses and efficient pollution control programs*, 1972. *Journal of Economic Theory*, 5(3): 395-418.

@ Newell, R. G., Pizer, W. A., and Raimi, D., *Carbon Markets 15 Years after Kyoto: Lessons Learned, New Challenges*, 2013. *Journal of Economic Perspectives*, 27(1): 123-146.

@ Nordhaus, W. & P. Sztorc (2013), *DICE 2013R: Introduction and User's Manual*, Website: dicemodel.net.

@ Oates, W. E. and Schwab, R. M., *Economic competition among jurisdictions: efficiency enhancing or distortion inducing?*, 1988. *Journal of Public Economics*, 35(3): 333-354.

@ Sandmo, A. *Optimal Taxation in the Presence of Externalities*, 1975. *The Swedish Journal of Economics*, 77(1): 86-98.

@ Schmalensee, R. and Stavins, R. N., *The SO₂ Allowance Trading System: The Ironic History of a Grand Policy Experiment*, 2013. *Journal of Economic Perspectives*, 27(1): @ 103-122.

@ Sterner, T. & M. Persson (2008), *An Even Sterner Review - Introducing Relative Prices into the Discounting Debate*, *Review of Environmental Economics and Policy* 2:61-76.

@ Traeger (2017), *Analytic Integrated Assessment (with Temperature and Uncertainty)*. Website.

@ Weitzman, M. L., *Prices vs. quantities*, 1974. *The Review of Economic Studies*, 41(4): 477-491.

@ Weitzman, M. L., *Why the Far-Distant Future Should Be Discounted at Its Lowest Possible Rate*, 1998. *Journal of Environmental Economics and Management*, 36(3): 201-208.