

FOUNDATIONS OF ECOLOGICAL ECONOMICS 2012-2013

Coordinator(s): Esteve Corbera (EC)

Lecturers: Jeroen van den Bergh (JvdB), Esteve Corbera (EC), Erik Gómez-Baggethun (EGB), Joan Martínez-Alier (JMA), and Jesús Ramos-Martin (JRM)

LECTURES VENUE AND TIME

ICTA, Aula Collserola, Tuesdays and Wednesdays 10:00-13:00 h; Starting on the 6th of November.

LECTURES TOPICS AND COMPULSORY READINGS

1. Introduction to the unit: teaching & assessment procedures, and key research topics of ecological economics

Date: 06/11/2012

Lecturer: Jeroen van den Bergh (JvdB)

van den Bergh, J.C.J.M. 2000. Ecological Economics: Themes, Approaches, and Differences with Environmental Economics. *Regional Environmental Change*, 3(1): 13-23.

Background reading: Martínez-Alier, J., Roca Jusmet, J. 2000. Economía Ecológica y Política Ambiental. PNUMA y Fondo de Cultura Económica.

2. Welfare, externalities and public goods

Date: 07/11/2012

Lecturer: JvdB

Kahn, J.R. 2004. *The Economic Approach to Environmental and Natural Resources*. 3rd edition, Thomson/South-Western, Fort Worth, Mason, Ohio. ch. 2; & ch. 4, section "What is Value".

Verhoef, E.T. 1999. Externalities. Chapter 13 in: J.C. J.M. van den Bergh (ed.). *Handbook of Environmental and Resource Economics*. Edward Elgar, Cheltenham, pp. 197-214.

3. Institutions for environmental governance

Date: 13/11/2012

Lecturer: EC

Hardin, G., 1968. The tragedy of the commons. *Science*, 162: 1243-1248.

Aguilera-Klink, F. 1994. Some notes on the misuse of classic writings in economics on the subject of common property. *Ecological Economics*, 9 (3): 221-228.

Feeny, D., Berkes, F., McCay, B.J., Atcheson, J.M. 1990. The tragedy of the commons - 22 years later. *Human Ecology*, 18: 1-19.

4. Access theory

Date: 14/11/2012

Lecturer: EC

Ribot, J., Peluso, N. 2003. A Theory of Access. *Rural Sociology*, 68(2): 153-181.

Corbera, E. i K. Brown, 2010. Offsetting benefits? Analysing access to forest carbon. *Environment and Planning A*, 42(7): 1739-1761.

5. Fishbanks I (Group task)

Date: 20/11/2012

Lecturers: EGB, EC

Ruiz-Pérez, M., Franco-Múgica, F., González-Novoa, J., Gómez-Baggethun, E., Alberruche-Rico, M.A. 2011. An institutional analysis of the sustainability of fisheries: Insights from FishBanks simulation game. *Ocean and Coastal Management* 54: 585-592.

Bailey, M., Rashid Sumailaa, U., Lindroos, M., 2010. Application of game theory to fisheries over three decades. *Fish. Res.* 102, 1e8.

6. Fishbanks II (Group task)

Date: 21/11/2012

Lecturers: EGB, EC

Ahn, T.K., Ostrom, E., Walker, J., 2010. A common-pool resource experiment with postgraduate students from 41 countries. *Ecol. Econ.* 69, 2624e2633.

Basurto, X., Coleman, E., 2010. Institutional and ecological interplay for successful self-governance of community-based fisheries. *Ecol. Econ.* 69, 1094e1103.

7. Social metabolism, environmental conflicts and valuation languages

Date: 27/11/2013

Lecturer: JMA

Martinez-Alier, J. 2009. Social metabolism, Ecological Distribution Conflicts and Languages of Valuation, *Capitalism, Nature, Socialism* 20(1), 58-87.

Martinez-Alier, J., Kallis, G., Veuthey, S., Walter, M., Temper, L. 2010. Social Metabolism, Ecological Distribution Conflicts, and Valuation Languages. *Ecological Economics* 70(2), 153-158.

8. Environmental liabilities

Date: 28/11/2013

Lecturer: JMA

Martinez-Alier, J. 2011 Environmental liabilities: the Chevron Texaco case in Ecuador, <http://webcolleges.uva.nl/mediasite/Viewer/?peid=a45f66d76ee44133bb4df640345642f11d>

Srinivasan, U., et al. 2008, The debt of nations and the distribution of ecological impacts from human activities. *Proceedings of the National Academy of Sciences*, 105(5): 1768–1773.

9. Choice of environmental policy instruments

Date: 04/12/2012

Lecturer: JvdB

Russell, C.S., Powell, P.T. 1999. Practical considerations and comparison of instruments of environmental policy. Chapter 21 in: J.C.J.M. van den Bergh (ed.). *Handbook of Environmental and Resource Economics*. Edward Elgar, Cheltenham, pp. 307-328.

Background reading: Sterner, T. 2003. *Policy Instruments for Environmental and Natural Resource Management*. Resources for the Future (RFF Press), Washington D.C., USA, 504 pages.

10. Climate policy economics

Date: 05/11/2012

Lecturer: JvdB

McKibbin, W.J., Wilcoxon, P.J. 2002. The role of economics in climate change policy. *Journal of Economic Perspectives* 16(2): 107-129.

Executive summary of The Stern review: *The Economics of Climate Change* (2006).

http://news.bbc.co.uk/2/shared/bsp/hi/pdfs/30_10_06_exec_sum.pdf

Responses to / debate on the Stern review (<http://www.hm-treasury.gov.uk/6520.htm>).

11. Integrated assessment of ecosystem services

Date: 11/12/2012

Lecturer: EGB

De Groot, R.S., Wilson, M., Boumans, R., 2002. A typology for the description, classification and valuation of ecosystem functions, goods and services. *Ecological Economics*, 41(3): 393–408.

Gómez-Baggethun, E., de Groot, R., Lomas, P., Montes, C., 2010. The history of ecosystem services in economic theory and practice: from early notions to markets and payment schemes. *Ecological Economics*, 69: 1209-1218.

12. Payments for ecosystem services

Date: 12/12/2012

Lecturer: EC

Kosoy, N., Corbera, E. 2010. Payments for ecosystem services as commodity fetishism. *Ecological Economics* 69: 1228-1236.

Muradian, R., Corbera, E., Pascual, U., Kosoy, N., May, P. 2010. Reconciling theory and practice: An alternative conceptual framework for understanding payments for environmental services. *Ecological Economics* 69: 1202-1208.

13. Energy policy, the rebound effect and societal transitions

Date: 18/12/2012

Lecturer: JvdB

van den Bergh, J.C.J.M. 2011. Energy conservation more effective with rebound policy. *Environmental and Resource Economics* 48(1): 43-58.

Dimitropoulos, J. (2007). Energy productivity improvements and the rebound effect: An overview of the state of knowledge. *Energy Policy* 35(12): 6354-6363.

Opening issue (free access) of new journal with the same name (notably its first article).
<http://www.sciencedirect.com/science/journal/22104224/1/1>

Geels, F.W. 2002. Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study. *Research Policy*, 31: 1257-1274.

14. Spatial sustainability and ecological footprint

Date: 19/12/2012

Lecturer: JvdB

Grazi, F., van den Bergh, J., Rietveld, P. 2007. Spatial welfare economics versus ecological footprint: Modeling agglomeration, externalities and trade. *Environmental and Resource Economics*, 38: 135-153.

van den Bergh, J., Verbruggen, H. 1999. Spatial sustainability, trade and indicators: an evaluation of the 'ecological footprint', *Ecological Economics* 29(1): 63-74.

15. Complexity and self-organisation: the evolution of societies

Date: 08/01/2013

Lecturer: JRM

Schneider, E.D., Kay, J. J. 1994. Life as a manifestation of the second law of thermodynamics, *Mathematical and Computer Modelling*, 19(6-8): 25-48.

Tainter, J.A. 2011. Energy, complexity, and sustainability: A historical perspective, *Environmental Innovations and Societal Transitions*, 1(1): 89-95.

16. Multi-Scale Integrated Assessment of Societal and Ecosystem Metabolism

Date: 09/01/2013

Lecturer: JRM

Giampietro, M., Mayumi, K., and Ramos-Martin, J. 2009. Multi-scale integrated analysis of societal and eco system metabolism (MuSIASEM): Theoretical concepts and basic rationale. *Energy*, 34(3): 313-322. <http://dx.doi.org/10.1016/j.energy.2008.07.020>

Ramos-Martín, J., Cañellas-Boltà, S., Giampietro, M., Gamboa, G. 2009. Catalonia's energy metabolism: using the MuSIASEM approach at different scales. *Energy Policy*, 37(11): 4658-4671.

17. Theory and methods in economic valuation (Group task)

Date: 15/01/2013

Lecturer: JvdB

Chapter 12 on “Valuing the Environment” in Natural Resource and Environmental Economics (Perman et al., 2002, Pearson/Addison-Wesley), pp. 399-443.

http://www.srm-basics.com/docs/books/Perman_Natural_Resource_and_Environmental_Economics_3rd_Edition_.pdf

18. Conceptual issues and challenges in economic valuation (Group task)

Date: 16/01/2012

Lecturer: EGB

Gómez-Baggethun, E., Ruiz-Pérez, M. 2011. Economic valuation and the commodification of ecosystem services. *Progress in Physical Geography*, 35: 617 - 632.

Martinez-Alier, J., Munda, J., O'Neill, J. 1998. Weak comparability of values as a foundation for ecological economics. *Ecological Economics*, 26: 277–286.

19. The growth debate (Individual task)

Date: 22/01/2013

Lecturer: JvdB

Beckerman, W. 1992. Economic growth and the environment. *World Development*, 20(4): 481-496.

Daly, H.E. 2005. Economics in a full world. *Scientific American* 293(3).

van den Bergh, J.C.J.M., de Mooij, R. 2002. Growth and the environment in Europe: a guide to the debate. *Empirica*, 29: 79-91.

ASSESSMENT METHOD

This unit will be assessed through the following exercises:

- **A final exam** that will contribute towards 50% of the final mark;
- **Two group tasks** that will each contribute towards 10 % of the final mark;
- **An individual task** that will contribute towards 10% of the final mark; and
- **An essay** that will contribute towards 20% of the final mark.

All of these exercises should be written or presented in English –see specific guidelines below.

Final exam (50%)

The exam will take place on the 30th of January 2013, in Aula de Collserola, 10-13 hours.

It will consist of 10 questions covering different aspects of the course. The space for answering each question will be limited to encourage succinct and accurate answers. The exam will be in English.

Essay

Students should *critically* discuss the following statement:

“The international framework for Reducing Emissions from Deforestation and Degradation, and enhancing carbon stocks (REDD+) aims to transfer financial resources from rich to poor countries and as such it can be considered a *fair* policy instrument that recognizes the existence of a historical ecological debt whilst contributing to conservation *and* rural development”.

- a) The essay should be 1500 words long, excluding references, and be submitted **before the 16th of January 2013 at 12 pm (CET)**. Essays submitted after this deadline will face a 5% penalty on the mark increasing evenly everyday.
- a) It should be written in English;
- b) It should be typed in Times New Roman size 12, using 1 line spacing and justified paragraphs, and should be submitted in Word format to the Module coordinator (esteve.corbera@uab.cat);
- c) Essay citations and references should follow the style of the journal *Ecological Economics*: http://www.elsevier.com/wps/find/journaldescription.cws_home/503305/authorinstructions

Group task exercise – Fishbanks (10%)

The same day of the lecture, the class will be divided in groups.

After the two consecutive and related sessions, each group will have to prepare an **A4 two page document** addressing the following:

- What were the behavioral dynamics observed during the game?
- How did your group performed during the game? Do you consider your performance satisfactory?
- If you were to play another time, what would you do differently?

This document should be typed in Times New Roman size 12, using 1 line spacing and justified paragraphs, and should be submitted in Word format to the Module coordinator (esteve.corbera@uab.cat), before the **28th of November 2012**. Groups submitting after this deadline will face a 5% penalty on the mark increasing evenly everyday.

Group task exercise – Valuation (10%)

Groups of 3 or 4 students (depending on the total number of students) have to present in 15 minutes a paper with an application of a valuation method to an environmental (policy) issue. Students have to identify:

- The specific assumptions;
- How the data was obtained;
- How the analysis was undertaken;
- Which main results were obtained;
- And which shortcomings the study has.

Each groups has to present a unique methods article, chosen from: travel cost, hedonic pricing, contingent valuation or choice experiments.

Individual task exercise – The environment-growth debate (10%)

Students have to prepare a text of 500 words that present their position in the growth debate. They can use this during the debate to assist in actually participating in the student growth debate. After class they can give the hardcopy to the lecturer (JvdB) who will then evaluate the quality of its content (argumentation and clarity).