**Natural Resources and Environmental Economics**

Professors:

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| Prof. Phoebe Koundouri | [pkoundouri@aueb.gr](mailto:pkoundouri@aueb.gr) |
| Dr. Landis Conrad Felix Michel | [conrad@aueb.gr](mailto:conrad@aueb.gr) |
| Dr. Dellis Konstantinos | [cdellis@aueb.gr](mailto:cdellis@aueb.gr) |

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**Syllabus**

**Textbooks in Greek:**

[Tietenberg, T. & Lewis, Lynne. (2010) *Οικονομική του περιβάλλοντος και των φυσικών πόρων,* Εκδόσεις Gutenberg](https://www.lemoni.gr/bookshop/?titleid=160271)

[Χάλκος, Γ. (2016). *Οικονομική των φυσικών πόρων και περιβάλλοντος,* Εκδόσεις Δισιγμα](https://www.lemoni.gr/bookshop/?titleid=160271).

**Useful Textbooks in English:**

Perman, R., Ma, Y., Common, M. S., Maddison, D., & MacGilvray, J. A. (2013). *Natural resource and environmental economics*. Harlow, England: Addison-Wesley.

Phaneuf, D. J., & Requate, T. (2017). A course in environmental economics: theory, policy, and practice. Cambridge, United Kingdom; New York, NY, USA: Cambridge University Press.

[Scientific Articles from the Journal of Economic Perspectives](https://www.aeaweb.org/journals/jep/classroom/environment-energy)

**The following structure corresponds imperfectly with the lectures**

*1 – 3. Sustainable Development Goals and Policy Framework*

The Sustainability Policy Framework: 17 SDGs of UN Agenda 2030, Paris Agreement for Climate Change, European Green Deal.

Lecture Presentation

14. Koundouri, P. (editor) The Ocean of Tomorrow: The Transition to Sustainability – Volume 2. Springer Publishing, (2020). Available at <https://link.springer.com/book/10.1007/978-3-030-56847-4>.

Pissarides report, 2020, <https://alogedu.files.wordpress.com/2020/11/pissarides-growth_plan_2020-11-23_1021.pdf>

Koundouri et al, 2022, “Financing the Joint Implementation of Agenda 2030 and the European Green Deal”, 2nd Report of the SDSN Senior Working Group on the European Green Deal, <https://egd-report.unsdsn.org/>.

*4. Market Failure, Externalities and Environmental Policy*

Reasons of Market Failure (public goods, externalities, monopoly power, information asymmetries), optimal pollution level, public intervention, Pigouvian tax, Coase’s Theorem. Rules and regulations, environmental tax, cap and trade systems, convergence of environmental measures, the role of uncertainty.

(Halkos, chapters 6&7)

Coase, R. H. (1960). The problem of social cost. Journal of law and economics, 3(1).

Leape, Jonathan. 2006. “The London Congestion Charge.” Journal of Economic Perspectives 20 (4): 157–76. https://www.aeaweb.org/articles?id=10.1257/jep.20.4.157

Goulder, L. H. (2013). Markets for Pollution Allowances: What Are the (New) Lessons? Journal of Economic Perspectives, 27(1), 87-102.

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

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

Fisher-Vanden, K., & Olmstead, S. (2013). Moving Pollution Trading from Air to Water: Potential, Problems, and Prognosis. Journal of Economic Perspectives, 27(1), 147-172.

Weitzman, M. L. (1974). Prices vs. quantities. The review of economic studies, 477-491.

5. Topics In Sustainable Finance - ESG and SDGs

Selected Topics in Sustainable Finance - The ESG (Environmental, Social and Governance Criteria) and the Sustainable Development Goals. The Corporate Sustainability Reporting Directive. The relation between ESG and Financial Performance.

Bergman, M., S., et al, 2020, “Introduction to ESG”, https://corpgov.law.harvard.edu/2020/08/01/introduction-to-esg/

Koundouri et al., 2022, “The Impact of ESG performance on the Financial Performance of European Area Companies: An empirical examination”, http://wpa.deos.aueb.gr/docs/Koundouri.Pittis.Plataniotis.ICSD.2021.pdf

6. *Ecosystem Valuation*

Classification of environmental values and ecosystem services, economic valuation methods (cost of travel, willingness to pay, hedonic pricing, stated preference methods), cost-benefit analysis. Real world evaluation methods, introduction to Integrated Assessment Models (IAMs)

(Tietenberg & Lewis chapter 3, Halkos, chapter 8)

Koundouri, P., 2004. ‘Econometrics Informing Natural Resources Management: Selected Empirical Analyses’ Edward-Elgar Publishing, Wally Oates and Henk Folmer's 'New Horizons in Environmental Economics' Series. ISBN: 978 1 84376 922 4 (416 pages).

<http://www.e-elgar.co.uk/bookentry_main.lasso?id=3497>

Koundouri, P., Koudnouris, Y. and K. Remoundou (2009). “Valuing a wind farm construction: a contingent valuation study in Greece”. *Energy Policy, 37.*

Rosenthal, D.H. and R.H. Nelson (1992). “Why existence value should not be used in cost-benefit analysis”. *Journal of Policy Analysis and Management, 11(1).*

Pagiola, Stefano; von Ritter, Konrad and Bishop, Joshua. (2004). “How Much is an Ecosystem Worth?”

World Bank, Nature Conservancy, IUCN. Washington. Retrieved from: https://portals.iucn.org/library/

node/8529

Salles, J.M. (2011). “Valuing biodiversity and ecosystem services: Why put economic values on Nature?”.

*Comptes Rendus Biologies, (334, 5–6)* https://doi.org/10.1016/j.crvi.2011.03.008.

7. Valuation of Ecosystem Services – Meta Analysis and Meta-Regression Methods

Meta Analyses and Meta-Regression methods for the valuation of ecosystem services. An Evaluation of European Ecosystem Services and the connection with SDGs.

Koundouri et al, 2022, “Financing the Joint Implementation of Agenda 2030 and the European Green Deal”, 2nd Report of the SDSN Senior Working Group on the European Green Deal, Chapter 3.2, <https://egd-report.unsdsn.org/>.

Birol, E., and P. Koundouri, 2008. ‘Choice Experiments Informing Environmental Policy: A European Perspective’. Edward-Elgar Publishing, Wally Oates and Henk Folmer's 'New Horizons in Environmental Economics' Series. ISBN: 9781845427252. ISBN: 978 1 84542 725 2, eISBN: 978 1 84844 125 5 (337pages)

<http://www.e-elgar.com/shop/choice-experiments-informing-environmental-policy>

Benefit Transfer of Environmental and Resource Values, 2015, Volume 14, ISBN : 978-94-017-9929-4, <https://link.springer.com/content/pdf/10.1007/978-94-017-9930-0.pdf>

*8.. Cost – Benefit Analysis in Ecosystem Valuation*

Valuation of ecosystem services and investment based on cost-benefit analysis (CBA). Net Present Value (NPV) and Internal Rate of Return (IRR) – critical assessment. Identifying prices and discount rates for CBA and the role of uncertainty.Cost-based and Price-based evaluation methods.

(Tietenberg & Lewis chapter 3, Halkos, chapter 8)

Ekin Birol, Phoebe Koundouri, Yiannis Kountouris (2010). “Assessing the economic viability of alternative water resources in water-scarce regions: Combining economic valuation, cost-benefit analysis and discounting”, *Ecological Economics, 69(4)*

Ivana Logar, Roy Brouwer, Amael Paillex (2019). Do the societal benefits of river restoration outweigh their costs? A cost-benefit analysis, *Journal of Environmental Management, 232*

Meyer, A., (2013). Intertemporal valuation of river restoration. *Environmental Resource Economics, 54 (1)*

Paulrud, A., Laitila, T. (2013). A cost-benefit analysis of restoring the Em River in Sweden:

valuation of angling site characteristics and visitation frequency. *Applied Economics 45 (16)*