

# Master in Economics

## Environmental and Natural Resources Economics



### COURSES TAUGHT :

- Policies and Business Strategies for a green economy
- Green Cost Benefit Analysis
- Valuing the Environment
- Sustainable Development
- Energy Economics and Climate Policy
- Ecosystem Management and Policies
- Econometrics of Program Evaluation
- Micro-Finance, Land and Labor
- The Public Economics of the Environment
- The Impact of Environmental Policies
- Topics in Environmental Economics
- Population demography and evolutionary ecology
- Biodiversity and Ecosystems
- Ecological Diagnosis
- Economics and Ecology
- Ecosystem Management and Policies
- Topics in environmental Economics
- The impact of Environmental Policies

### SKILLS :

- Ability to analyze, assess and recommend economic policies to tackle environmental issues such as pollution and natural resources sustainability
- Ability to evaluate environmental costs and benefits, who often have no easily available market prices, and to perform a cost-benefit analysis of environmental projects
- Ability to evaluate the efficiency of environmental regulatory policies (taxes, average gas emissions, emission trading schemes, etc.)
- Ability to use prospective and quantitative analysis tools applied to natural resources such as energy
- Strategic vision of private decision-makers (firms, investors) to tackle environmental issues: innovation, green products labelling, socially responsible investment, providers relationships and environmental management system

Environmental issues such as pollution, climate change and the conservation of biodiversity are currently at the top of the public debate. Governments design public policies such as taxes or emission trading schemes to mitigate the negative impacts of air or water pollution. Firms launch green business strategies such as investments in cleaner technologies, product labelling or socially responsible investments to improve their competitiveness. The Master 2 TSE - "Environmental and Natural Resource Economics" (ERNA) prepares students to tackle environmental issues and manage natural resources.

The M2 ERNA program combines recent developments in economic theory and quantitative techniques with applications in real-world problems in environmental and natural resource management such as water, air, energy, land, fisheries, or environmental and health risks. Students, for instance, acquire knowledge on how to reconcile the conflicting objectives of continuing to fuel economic growth, while conserving scarce resources and protecting affordable access; fairness principles to a river sharing problem, the evaluation of non-market goods such as air-pollution and safety, etc. The "Energy and Environmental Policy Path" of the master is providing students with the analytical skills to assess, analyse and recommend economic policies and strategies to tackle environmental issues and manage natural resources.

The "Economics and Ecology Path" of the master is also providing students with tools to understand how biodiversity and ecosystems are modeled and measured, how one can measure the ecological and the economic value of biodiversity and ecosystems, and how economic policy can be used to influence human behavior and its consequences on biodiversity and ecosystems.

Courses are taught in English by TSE faculty members with well-established international reputation in the areas of theoretical and applied environmental economics, including related areas such as energy and public economics. This teaching faculty has over the years developed research projects with strong ties with public institutions, as well as private companies involved in environmental and natural resource issues.

**Henrik ANDERSSON – Master's program Director**

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### CAREERS/JOB:

- Typical jobs: Economists, researchers, consultants or analysts specialized in environmental issues.
- Leading sectors: consulting, Energy, governmental bodies, supranational organizations, research.



### Harry Fearnehough

Master ERNA Graduated – Economic Analyst at NERA Economic Consulting

Following my ERNA Master's at TSE I joined the Environment practice at NERA Economic Consulting. My work, advising both public and private organisations on a range of environment and energy-related topics, draws heavily on both the microeconomic foundation as well as the sectoral focus that the ERNA M2 provides.

The course offers a core mix of theoretical study and real-world application across subject matter such as water, climate change, energy and natural resources: a coverage that has been invaluable to me working as a consultant, addressing a broad range of issues in environmental and energy regulation on a day-to-day basis.



### Nick Johnstone

OECD – Head of “Structural Policy Division” – Directorate for “Science, Technology and Innovation”.

At the OECD we occasionally offer internship opportunities for Master's students from TSE. This includes students focussing on issues of relevance to the ERNA, as well as other fields such as the economics of innovation and industrial organisation. These internships provide student with the opportunity to interact with members of our teams of economists and to work on a wide range of policy-relevant questions using state-of-the-art empirical methods.

Moreover, the possibility to undertake work which feeds directly into the work of OECD Committees provides students with an opportunity to have real influence. Our experience with TSE students has been uniformly excellent. The combination of a solid grounding in economic theory with good technical skills in statistics, econometrics, and programming has been of great value to the OECD in the past, and we hope to continue to benefit from the expertise of TSE students in the future.”



### Nicolas Treich

Professor of Economics – TSE

In my class on cost-benefit analysis (BCA) in the ERNA master at TSE, students learn the basics of BCA (surplus concept, opportunity cost, discounting, value of life, value of time etc.). But they also learn how to ‘think about’ BCA. The class often takes the form of an open discussion, so that the students can debate about the strength and weakness of BCA.

This leads to discuss extensively some difficulties in BCA, like how to treat uncertainty, equity or bounded rationality, or to discuss the use and the limits of BCA or other quantitative tools in policy-making. I believe that students are then prepared in the broad sense to evaluate environmental policy impacts in governments, or in international organisations.