



## Program 2024/2025

### AIMS AND SCOPE

The program focuses on environmental issues such as pollution, climate change, energy, natural resource management, or protection of habitat and endangered species. Courses cover how governments design public policies such as taxes, emission trading schemes or labels and standards to mitigate the negative impacts from human activities on the environment, or how individuals and firms can change their behavior in a more sustainable way.

The Master in Environmental Economics and Policy (EEP) is providing students the analytical skills to assess, analyze and recommend economic policies and strategies to tackle environmental issues and manage natural resources. Students will target jobs in natural resources management and sustainable development (large businesses, public institutions and local communities), within international institutions, or will pursue an academic career.

This program is mainly led by thematic academic groups, including in Environmental and Natural Resource Economics, which are parts of the Toulouse School of Economics.

**Note:** students can apply either to the full program (i.e., two years) or directly to the 2nd year (refer to the Admission section for further information)

### PROGRAM STRENGTHS

- The 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, forestry, or fisheries.
- The teaching is mainly performed by highly qualified economists from Toulouse School of Economics. The environmental and natural resource economists are doing their research within a TSE dedicated research group, one of the major research centers in environmental and natural resource economics in Europe. The program is supported by INRAE (French National Institute for Agricultural Research).
- Faculties have developed research projects with strong ties with public institutions (French Ministry of the Environment, French Water Agencies, The World Bank,...), as well as companies involved in environmental and natural resources issues (EDF, Engie, GRDF, TotalEnergies,...) and investors through the “Sustainable Finance” and the “Energy and Climate” centers.

## 1. Master in Applied Economics - Environmental policy and Natural Resource Economics – 1<sup>st</sup> Year

SEMESTER 1	SEMESTER 2
<p><b>Compulsory:</b></p> <ul style="list-style-type: none"> <li>• Game Theory *</li> <li>• Theory of Incentives *</li> <li>• Macroeconomics *</li> <li>• Intermediate Econometrics *</li> <li>• Applied Econometrics *</li> <li>• R programming *</li> <li>• Professional Development</li> <li>• French as a Foreign Language</li> </ul> <p><b>Choice 2 among 12:</b></p> <ul style="list-style-type: none"> <li>• Environmental economics</li> <li>• Economic History</li> <li>• Evolution of economic behaviour</li> <li>• Understanding Real World Organizations</li> <li>• Markov Chains and applications****</li> <li>• Probability Modeling</li> <li>• Project Management</li> <li>• Experimental economics</li> <li>• Political Economy</li> <li>• Market Power &amp; Regulation</li> <li>• Markets and Incentives: a historical-theoretical perspective</li> <li>• ENGAGE</li> </ul>	<p><b>Compulsory:</b></p> <ul style="list-style-type: none"> <li>• Public economics *</li> <li>• Applied Econometrics *</li> <li>• Program Evaluation *</li> <li>• French as a Foreign Language</li> </ul> <p><b>Choice 4 among 16:</b></p> <ul style="list-style-type: none"> <li>• Advanced Macroeconomics</li> <li>• Advanced Microeconomics</li> <li>• Industrial Organization **</li> <li>• Development Economics**</li> <li>• Environmental &amp; Resource Economics **</li> <li>• Time series **</li> <li>• Panel Data **</li> <li>• Corporate finance **</li> <li>• Market finance **</li> <li>• Empirical Industrial Organization</li> <li>• Topics in food economics</li> <li>• Behavioral and Experimental economics</li> <li>• Dynamic Optimization</li> <li>• Martingales theory and applications ****</li> <li>• Data Bases</li> <li>• ENGAGE</li> </ul>
<p><b>Non-Mandatory:</b></p> <ul style="list-style-type: none"> <li>• Introduction to SAS (for newcomers in the first year of master)</li> <li>• Math camp for M1 and M2 (End of August): Algebra/Probability/Static Optimization refresher***</li> </ul>	<p><b>Mandatory:</b></p> <ul style="list-style-type: none"> <li>• Compulsory International internship or Master Thesis.</li> </ul>
	<p>Internship or master Thesis</p>

\*UE1/UE2/UE5. A minimum score of 10 out of 20 is required.

\*\*Masters 2 Directors highly recommend to attend these options:

- Industrial Organization: M2 EMO
- Environmental & Resource Economics: M2 EEP
- Economic of Human Development: M2 PPD
- Corporate finance et Market Finance: M2 Finance
- Panel Data or Time series: M2 EEE

\*\*\* Math refresher courses opened to M1 and M2 students

\*\*\*\* To attend the Martingales theory and applications course you need to have attended the Markov Chains course first.

## 2. Master in Environmental Economics and Policy – 2<sup>nd</sup> Year

### Specific to Track Environmental Policy and Energy Economics

SEMESTER 3	SEMESTER 4
<p><b>Compulsory:</b></p> <ul style="list-style-type: none"> <li>• Fundamentals and Policies for a greener economy</li> <li>• Valuing the Environment</li> </ul> <p><b>Choice 2 among 4:</b></p> <ul style="list-style-type: none"> <li>• Sustainable Development****</li> <li>• Causal Inference with observational data</li> <li>• Machine learning for economics*****</li> <li>• Agriculture and Global Value Chains</li> </ul> <p><b>Choose 1 elective among 3:</b></p> <ul style="list-style-type: none"> <li>• Datanomics : regulation of data spreading and data protection</li> <li>• Project Management (i)</li> <li>• Ethics of Social Studies</li> </ul>	<p><b>Compulsory:</b></p> <ul style="list-style-type: none"> <li>• Cost Benefit Analysis: Foundations and Practice</li> </ul> <p><b>3 courses among 7:</b></p> <ul style="list-style-type: none"> <li>• Energy Economics and Climate Policy****</li> <li>• Ecosystem Management and Policies</li> <li>• Advanced Environmental Economics*</li> <li>• Structural Models and Policy Evaluation*+</li> <li>• Industrial Organization of the Food Industry*****</li> <li>• Topics in Environmental Economics</li> <li>• Randomized Controlled Trials and Policy Evaluation</li> </ul>
<p><b>Non-Mandatory:</b></p> <ul style="list-style-type: none"> <li>• Professional Development**</li> <li>• Algebra Refresher***</li> <li>• Probability Refresher***</li> <li>• Dynamic Optimization Refresher***</li> </ul>	<p><b>Non-Mandatory:</b></p> <ul style="list-style-type: none"> <li>• Introduction to geographical information systems (facultatif)***</li> </ul>

**Specific to Track Economics & Ecology**

SEMESTER 3	SEMESTER 4
<p><b>Compulsory:</b></p> <ul style="list-style-type: none"> <li>• Fundamentals and Policies for a greener economy</li> <li>• Valuing the Environment</li> <li>• Ecology for economists</li> <li>• Global risks for a living planet: climate, biodiversity, pandemics</li> <li>• Biodiversity and climate law</li> </ul>	<p><b>Compulsory:</b></p> <ul style="list-style-type: none"> <li>• Sustainable management and valuation of ecosystems</li> <li>• Ecosystem Management and Policies</li> </ul>
<p><b>Choose 1 elective among 3:</b></p> <ul style="list-style-type: none"> <li>• Datanomics : regulation of data spreading and data protection</li> <li>• Project Management (i)</li> <li>• Ethics of Social Studies</li> </ul>	<p><b>Choose 2 electives among 5:</b></p> <ul style="list-style-type: none"> <li>• Cost-Benefit Analysis : Foundations and Practice</li> <li>• Energy Economics and Climate Policy****</li> <li>• Topics in Environmental Economics</li> <li>• Advanced Environmental Economics*</li> <li>• Structural Models and Policy Evaluation*+</li> </ul>
<p><b>Non-Mandatory:</b></p> <ul style="list-style-type: none"> <li>• Professional Development**</li> <li>• Algebra Refresher***</li> <li>• Probability Refresher***</li> <li>• Dynamic Optimization Refresher****</li> </ul>	<p><b>Non-Mandatory:</b></p> <ul style="list-style-type: none"> <li>• Introduction to geographical information systems (facultatif)</li> </ul>
	Internship or master Thesis

\*\* Students who followed the course " Professional Development" in M1 in 2021-2022 will be exempted.

\*\* Upgrade course in Mathematics, open to students in M1 and M2 of TSE.

\*Option choice must be approved by the ETE and EEP Directors

\*\*\*\* 5 students of the EMO Master are authorized to take the Energy Economics course

\*\*\*\*\*5 students of the EEP Master are authorized to take the IO of the Food Industry course

## SKILLS :

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- 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

## CAREERS/JOBS:

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

## ALUMNI AND PROFESSORS FEEDBACK

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### Harry Fearnehough

Economic Analyst at NERA Economic Consulting (TSE graduate – Class 2012)

Following my 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 Master program 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.

### Stanislas Nösperger

Research Engineer - EDF

Within EDF R&D, Technologies and Research for Energy Efficiency department, I work in a research team on territories and circular economy. One of our activities consists in describing and evaluating the economic models of industrial symbiosis approaches related to energy (heat flows) or materials (water, waste, sediments...) and enhancing the environmental and social impacts on the territory. We recruited several TSE trainees to assist us in this task because of their solid training in environmental economics, which we were aware of beforehand and that constituted a necessary basis for their work. We have appreciated retrospectively the quality of their documentary research work, their method in the realization of the analysis work and in the restitution of the results and their great editorial quality. We would also like to emphasize their enthusiasm and curiosity in the discovery and appropriation of concepts and models that complemented the courses they already mastered. This curiosity has been an essential resource in their research work.

### 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.

## ADMISSION

Admission is based on academic excellence.

### First year admission:

- Aimed at English speakers
- Students should hold a BSc in Economics, Applied Mathematics within a recognized curriculum considered as consistent with the program and approved by the TSE selection committee.

### Second year admission:

- Admission is based on academic excellence criteria.
- Applicants from the French system must have passed the TSE International track Master 1 (1st year Master's) in Applied Economics or another French University master in Applied Mathematics or an equivalent degree (e.g., engineering school,...).
- For foreign degree holders, the required degrees are either a BSc, M.A., or MSc, within a recognized curriculum regarded as consistent with the program and approved by the TSE Selection Committee.  
Some brushing-up in Economics or Maths might be advisable in some cases. Working knowledge of English is obviously required.

## APPLICATION

For the 1<sup>st</sup> year, students have to apply to the Master in Applied Economics. For the 2<sup>nd</sup> year, student have to apply to the Master in Environmental Economics and Policy.

Applications are considered in November for Eiffel scholarship applicants and in January for other international students and French degree holders applying to the 1<sup>st</sup> year. Applications to the second year take place in May for French degree holders.

For more details about enrollment and application process, we invite you to visit the Admission section.

## CONTACT

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