

Motivation

The challenge of climate change has brought environmental concerns back to the fore, as well as the urgent need to take action to facilitate change. Nevertheless, this action will not occur extemporaneously, and the prior integration of sustainability issues into other disciplines is indispensable so that professionals in each field can enable the paradigm shift.

In this sense, environmental economics plays a crucial role, as it provides tools and solutions so that both the public sector, in the development of environmental policies, and the private sector, through environmental management, incorporate sustainability.

This book arises from a dual need that has become apparent after many years teaching at universities and postgraduate centres, along with practical work as an international environmental consultant for a wide array of public and private organisations.

Firstly, after many years lecturing on environmental economics to students from outside the field of economics, I have never found a manual that fully fits their needs. The existing manuals do not explain the basic notions of economics that students need in order to apprehend the specific contents of the discipline. Without some fundamentals of macroeconomics, it is difficult to grasp the essential concepts of environmental accounting, just as it is difficult to interpret the implications of an environmental tax without a basic understanding of a demand curve or of what a monopoly is. Moreover, students of non-economic disciplines are not as interested in

theoretical developments as in the context of different problems and being able to address them with practical solutions.

Secondly, in my work as a consultant, I have had to explain and discuss environmental economic concepts with colleagues, governments, and companies. While there are several manuals on the subject, it is difficult to find one that leaves aside dogmatic disputes and practically tackles the application of tools provided by the discipline. The discrepancies between the always antagonistic paradigms of environmental and ecological economics feel enormous in a classroom setting but become superfluous when facing the long list of pending tasks in environmental protection. The gap between scientific need and political feasibility is so immense that the perfect becomes, more than ever, the enemy of the good.

Contents

The contents of this book differ from those of usual manuals in some respects. Perhaps the most relevant is the incorporation of a specific chapter (“2. Fundamental Economics”) so that readers can understand the essential notions of micro, macroeconomics and econometrics, which are necessary for the rest of the course.

On the other hand, the intellectual and academic dispute between environmental and ecological economics, although sometimes only relevant for scholars, has certain relevance when choosing the tools most applicable to a problem and interpreting their limitations. Normally, authors in the discipline stick to one paradigm throughout their manuals, considering the dispute settled. Therefore, they see no need to elaborate on the reasons for the divide nor do they provide a plural view of topics. I find it better for readers to remain agnostic to the divide and, for this reason, the first chapter offers an introduction to the relationship between the environment and economics, bringing the reader closer to the dichotomy between the physical and the monetary world that is the root of the dispute.

In addition, a specific chapter on the economics of climate change has been incorporated (chapter 6). The reason being that it is the most important environmental challenge at this time and, by far, the one to which most public and private resources are being devoted. Furthermore, climate change by its very nature is very well suited to being addressed with economic tools and is therefore a perfect testing ground for the discipline.

Apart from these more unusual chapters, the book touches on practically all the relevant developments in environmental economics. The third chapter analyses the context of environmental decision-making, from the establishment of objectives

to the choice between instruments through cost-benefit, cost-effectiveness, and multi-criteria methodologies. The fourth chapter is dedicated to perhaps the most controversial branch of environmental economics, the monetary valuation of the environment, with an explanation of its fundamental concepts and the main applicable methods, including both revealed and stated preference approaches.

The fifth chapter deals with environmental policy, for which an understanding of some of the content explained above will be essential. In this respect, this section analyses the advantages and disadvantages of regulation, environmental taxes, emission trading systems, and voluntary agreements. This section has been placed before the previously mentioned chapter on climate change (chapter 6) due to the unequivocal connection between the two.

The seventh chapter deals with “natural resource economics”, a discipline that sometimes declares itself independent from environmental economics. Beyond the dispute on how to measure sustainability, the problem of access to resources is analysed, highlighting certain applications of game theory. Finally, it deals with some specific applications such as mineral economics or fisheries.

Finally, the eighth chapter looks at the thorny issue of environmental accounting and shows the main existing developments to integrate environmental issues into both national and corporate accounting systems, including topics such as the reporting of non-financial information and specific indicators such as the carbon footprint.

Structure

Some epigraphs have been added to the chapters to facilitate understanding, as well as to visualize practical applications and allow for a deeper dive into the content. For this reason, basic questions are included at the end of each chapter to further highlight the most important dilemmas and difficulties of each topic. A list of essential concepts has also been added so that the reader may quickly reference the most relevant ideas presented.

A set of practical applications from the literature has also been included in almost all of the chapters, to provide the reader with examples of how the content has been applied to a specific geographical area or topic. Freely available papers have been prioritized over those behind a paywall, whenever possible.

Finally, a table with links to relevant web pages can be consulted for further study. A brief description of the site or institution has been added, along with a remark on the contents that might be of most interest to the reader.