



World Scientific Lecture Notes in Economics and Policy:
Volume 7

Economics, Game Theory and International Environmental Agreements

The Ca' Foscari Lectures



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The science and management of environmental problems is a vast area, comprising both the natural and social sciences, and the multidisciplinary links often make these issues challenging to comprehend. *Economics, Game Theory and International Environmental Agreements: The Ca' Foscari Lectures* aims to introduce students to the multidimensional character of international environmental problems in general, and climate change in particular.

Ecology, economics, game theory and diplomacy are called upon and brought together in the common framework of a basic mathematical model. Within that framework, and using tools from these four disciplines, the book develops a theory that aims to explain and promote cooperation in international environmental affairs.

Other books on the topic tend to be research-oriented volumes of various papers. Instead, this is a book that offers a reasonably-sized synthesis of the multidimensional societal problems of transfrontier pollution, particularly of climate change. It uses mathematical modeling of economic and game theory concepts to examine these environmental issues and demonstrate many results in an accessible fashion. Readers interested in understanding the links between ecology and economics, as well as the connection between economics and institutional decision-making, will find in this text not only answers to many of their queries but also questions for further thinking.

Readership: Students and researchers who are interested in learning more about transboundary environmental issues, such as transfrontier pollution and climate change, from an environmental economics and game theory perspective.

Contents

- Foreword (by Carlo Carraro)
- Two Introductory Notions
- The Reference Economic-Ecological Model
- Economic Theory Concepts
- Game Theory Concepts
- The Global Externality Game (GEG)
- The Dynamic GEG
- The Dynamic GEG in Numbers
- Coalitional Stability in the GEG
- Policy and Diplomacy: A GEG Interpretation of the UNFCCC Process
- General Conclusion

In preparation: Numerical implementation of the main concepts (with Marco Rogna)

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