

Horst Siebert

# Economics of the Environment

Theory and Policy

Seventh Edition

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# Preface

*The labor of nature is paid, not because she does much, but because she does little. In proportion as she becomes niggardly in her gifts, she exacts a greater price for her work. Where she is munificently beneficent, she always works gratis.*

David Ricardo<sup>1</sup>

This book interprets nature and the environment as a scarce resource. Whereas in the past people lived in a paradise of environmental superabundance, at present environmental goods and services are no longer in ample supply. The environment fulfills many functions for the economy: it serves as a public-consumption good, as a provider of natural resources, and as receptacle of waste. These different functions compete with each other. Releasing more pollutants into the environment reduces environmental quality, and a better environmental quality implies that the environment's use as a receptacle of waste has to be restrained. Consequently, environmental disruption and environmental use are by nature allocation problems. This is the basic message of this book.

If a resource is scarce and if a zero price is charged for its use, then misallocation will result. The environment as a receptacle of waste has been heavily overused, and consequently environmental quality declined. Scarcity requires a price. This book analyzes how this price should be set, whether a correct price can be established through the market mechanism, and what role the government should play. The book offers a theoretical study of the allocation problem and describes different policy approaches to the environmental problem. The entire spectrum of the allocation issue is studied: the use of the environment in a static context, international and trade aspects of environmental allocation, regional dimensions, environmental use over time and under uncertainty. The book incorporates a variety of economic approaches, including neoclassical analysis, the public-goods approach, benefit-cost analysis, property-rights ideas, economic policy and public-finance reasoning, international trade theory, regional science, optimization theory, and risk analysis.

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<sup>1</sup> D. Ricardo, *Principles of Political Economy and Taxation*, 1817, quoted according to Everyman's Library, London 1911, Dent, p. 39.

This book grew out of my research at the University of Mannheim, of Konstanz and at the Kiel Institute for the World Economy, Germany, and visiting positions at the University of Aberdeen, Scotland, the Australian National University in Canberra, the Energy Laboratory of the Massachusetts Institute of Technology as well as the Sloan School of Management, the University of California at Riverside, the University of New Mexico at Albuquerque, New York University, and Resources for the Future in Washington. I appreciate critical comments to previous editions from Ralph d'Arge, Ferdi Dudenhöffer, Helga Gebauer, Ralf Gronych, Gernot Klepper, Allen V. Kneese, John V. Krutilla, Ngo Van Long, Peter Michaelis, Toby Page, David Pearce, Rüdiger Pethig, Michael Rauscher, Cliff Russell, Hans Werner Sinn, Walter Spofford, Frank Stähler, Sabine Toussaint, Wolfgang Vogt, and Ingo Walter. For this edition, I received critical comments from Rüdiger Pethig and Michael Rauscher. My research assistants Mark Bousfield, Alexander Schrats, and Michael Trinkus helped to update data. Michael Trinkus has prepared the bibliography.

I am delighted that this book has been accepted by the international academic community as a standard work in the economics of the environment, including editions in Chinese (2001) and in Japanese (2006). This seventh edition has been systematically revised and enlarged. Empirical references, tables, and figures have been updated. The recent literature has been integrated into the text. New sections have been added on abatement costs, ambient air quality standards in the European Union, environmental legislation, the empirical relationship between trade and environmental quality, global warming, self-enforcing contracts, the Kyoto Protocol and other global approaches, and EU emission trading.

I hope that the analysis presented in this book contributes some insights to the emotional debate on environmental disruption, and I wish that it incorporates nature and the environment as a scarce good into the body of economic thought and that it provides an answer of economics as a discipline to a problem of great importance to our societies.

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# Contents

	<b>Preface</b> .....	V
	<b>List of Figures and Tables</b> .....	XIII
<b>Part I</b>	<b>Introduction</b> .....	1
<b>Chapter 1</b>	<b>The Problem</b> .....	3
<b>Chapter 2</b>	<b>Using the Environment – An Allocation Problem</b> .....	7
	Externalities .....	7
	Relationship Between the Environment and the Economic System .....	8
	Material Flows Between the Environment and the Economic System .....	12
	Competing Uses .....	13
	Zero Price of Environmental Use .....	16
	Environmental Effects of Government Decisions .....	18
	How Much Environmental Quality? .....	19
	A Taxonomy of the Environmental Problem .....	19
	Appendix 2A: Input-Output Analysis and the Environment .....	20
	Appendix 2B: Applied General Equilibrium Models .....	23
<b>Part II</b>	<b>Static Allocation Aspect</b> .....	25
<b>Chapter 3</b>	<b>Production Theory and Transformation Space</b> .....	27
	Production Theory .....	27
	Variables Affecting the Transformation Space .....	33
	An Alternative Approach of Production Theory .....	36
	Appendix 3A: Properties of the Transformation Space .....	37
	Appendix 3B: Transformation Space with Negative Productivity Effect .....	41
<b>Chapter 4</b>	<b>Optimal Environmental Use</b> .....	43
	Criteria for Optimality .....	43
	Optimization Problem .....	45
	A Shadow Price for Pollutants .....	46

	Implications for the Shadow-Price System of the Economy	49
	Optimum and Competitive Equilibrium	50
	Appendix 4 A: Nonlinear Optimization	54
	Appendix 4B: Implications of the Allocation Problem	55
	Appendix 4C: Implications of the Profit Maximum	56
<b>Chapter 5</b>	<b>Environmental Quality as a Public Good</b>	59
	Characteristics of a Public Good	59
	Allocation of Public Goods	62
	Social-Welfare Function	63
	Benefit-Cost Analysis	65
	Costs of Environmental Quality	66
	Evaluation of Environmental Quality	70
	Individual Preferences and the Pareto-Optimal Provision of Environmental Quality	74
	Thesis of Market Failure	77
	Lindahl Solution	77
	Mechanisms of Social Choice	84
	Ethical Aspects of Environmental Evaluation	91
	An Example: Ambient Quality Standards	95
<b>Chapter 6</b>	<b>Property-Rights Approach to the Environmental Problem</b>	97
	Property-Rights Approach	97
	Property Rights and Environmental Allocation	98
	Coase Theorem	99
	Coase Theorem and Transaction Costs	101
	Can Property Rights Be Specified?	102
<b>Part III</b>	<b>Environmental-Policy Instruments</b>	105
<b>Chapter 7</b>	<b>Incidence of an Emission Tax</b>	107
	Standard-Price Approach	107
	Reaction of Producers	109
	Emission Taxes in Monopoly	110
	General Equilibrium Approach	111
	Allocation in a General Equilibrium Model	114
	Pollution Intensities, Factor Intensities, and Allocation Effects	118
	Overshooting of the Emission Tax	120
	Is there a Double Dividend of Emission Taxes?	120
	Instruments in a Second-Best Setting	124
	Appendix 7A: Reaction of the Individual Firm	124
	Appendix 7 B: General Equilibrium Model	124
<b>Chapter 8</b>	<b>Policy Instruments</b>	127
	Transforming Quality Targets into Individual Behavior	127
	The Principal-Agent Problem	128

Available Policy Instruments .....	129
Criteria for Evaluating Instruments .....	130
Moral Suasion .....	131
Government Financing and Subsidies .....	132
Regulatory Approach .....	132
Voluntary Agreements .....	136
Emission Taxes .....	136
Pollution Licenses .....	140
The Bubble Concept .....	145
Success of Emission Trading .....	147
Institutional Arrangements for Cost Sharing .....	148
Combining Standards and an Emission Tax .....	150
Liability .....	150
<b>Chapter 9 Policy Instruments and the Casuistics of Pollution .....</b>	<b>153</b>
Solid Waste .....	153
Optimal Waste Reduction .....	155
Establishing Scarcity Prices for Waste with Collection Costs .....	157
Waste Management and Spatial Structure .....	157
Closed Substance Cycle and Product Responsibility .....	158
The German System of Waste Management .....	158
Emissions from Mobile Sources .....	160
Accidental Emissions .....	161
Vintage Damages .....	161
Pollutants in Consumption Goods .....	161
Pollutants in New Products .....	162
Externalities in Land Use .....	162
<b>Chapter 10 The Political Economy of Environmental Scarcity .....</b>	<b>163</b>
The Opportunity Cost Principle .....	163
The Polluter-Pays Principle .....	164
The Pollutee-Pays Principle .....	166
The Precautionary Principle .....	166
The Principle of Interdependence .....	167
Major Environmental Legislation .....	168
<b>Part IV Environmental Allocation in Space .....</b>	<b>171</b>
<b>Chapter 11 Environmental Endowment, Competitiveness and Trade ...</b>	<b>173</b>
Environmental Systems in Space .....	173
Environmental Endowment .....	174
National Environmental Policy and Comparative Advantage .....	175
Environmental Policy and Trade Flows .....	177
Environmental Policy, Imperfect Competition and Trade .....	179
Location Advantage .....	180

International Specialization and Environmental Quality	180
The Equalization of Prices for Emissions	181
Environmental Policy and Gains from Trade	182
Environmental Pollution: A Race to the Bottom?	183
Empirical Studies of the Impact of Environmental Policy on Trade	184
Trade Policy as a Means for Environmental Protection?	185
Environmental Concerns – A Pretext for Protection	187
Environmental Policy and World Trade Order	187
Trade Policy to Solve Transfrontier and Global Pollution Problems?	190
Elements of a Multilateral Environmental Order	192
Environmental Policy in the Single Market	193
<b>Chapter 12 Transfrontier Pollution</b>	195
Transfrontier Diffusion Function Versus International Public Good	195
Distortions from Transfrontier Pollution	196
The Noncooperative Solution to Transfrontier Pollution	196
The Cooperative Solution to Transfrontier Pollution	200
Side Payments	201
The Bargaining Approach to Transfrontier Pollution	203
Policy Instruments for Transfrontier Pollution	204
Positive International Spillovers: The Equatorial Rain Forest	206
Biodiversity	206
<b>Chapter 13 Global Environmental Media</b>	209
Global Warming	209
The Noncooperative Solution to Global Media	210
Side Payments and Global Goods	215
Controlling the Free Rider	216
Sanctions	216
Self-enforcing Contracts	217
Coalitions	217
The Unilateral First Mover	218
Uniform Reduction	219
A Workable System of Transferable Discharge Permits	219
Reneging the Contract	220
An International Order for the Global Environment	221
The Kyoto Protocol and Beyond	223
EU Emission Trading	226
<b>Chapter 14 Regional Aspects of Environmental Allocation</b>	229
The Problem	229
Spatial-Allocation Model	232
Regional Implications of a National Environmental Policy	233

Regional Differentiation of the Emission Tax .....	233
Location Advantage .....	235
Diagrammatic Explanations .....	236
Resource Mobility and Adjustment of Emission Taxes ...	239
Differences in Environmental Quality .....	240
Siting Issues and the National Interest .....	241
Regional Versus National Authorities .....	241
Some Restraints on Regional Authorities .....	243
Regional Autonomy and Environmental Media .....	244
Environmental Equity and Specialization of Space .....	245
Environmental Policy and Regional Planning .....	246
Appendix 14 A: A Regional Allocation Model .....	247
<b>Part V Environmental Allocation in Time and Under Uncertainty</b> .....	<b>249</b>
<b>Chapter 15 Long-Term Aspects of Environmental Quality</b> .....	<b>251</b>
The Problem .....	251
Dynamic Model .....	253
Implications .....	253
Three Strategies for Dynamic Environmental Use .....	255
Social Discount Rate and Environmental Allocation .....	259
Further Determining Factors of the Shadow Price of Emissions .....	260
Appendix 15 A: Control Theory .....	262
Appendix 15 B: A Dynamic Allocation Model .....	265
<b>Chapter 16 Economic Growth, Sustainability, and Environmental Quality</b> .....	<b>267</b>
Interdependencies Between Environmental Quality, Growth, and Resources .....	267
Growth and Environmental Degradation .....	268
The Survival Issue .....	274
Environmental Quality as a Normative Restriction for Growth .....	274
Optimal Growth .....	276
Growth with Finite Resources .....	276
Weak or Strong Substitutability .....	277
Growth with Human Capital .....	277
Endogenous Growth .....	277
Sustainable Development .....	278
Zero Economic Growth .....	281
An Optimistic Note: The Environmental Kuznets Curve	283
<b>Chapter 17 Risk and Environmental Allocation</b> .....	<b>285</b>
Environmental Risks .....	285
Risk and Environmental Quality .....	287
A Simple Static Model .....	289



Risk in an Intertemporal Context .....	290
Preventive Environmental Policy .....	292
Irreversibilities and Option Values .....	293
Allocating Environmental Risks? .....	294
Risk Reduction .....	295
Allocating the Costs of Risk Reduction .....	295
The Response of the Polluter Under Uncertainty .....	297
<b>About the Author</b> .....	299
<b>Bibliography</b> .....	301
<b>Subject Index</b> .....	329