

# ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS: A CONTEMPORARY APPROACH, 4<sup>th</sup> Edition

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## PART ONE

### INTRODUCTION: THE ECONOMY AND THE ENVIRONMENT

#### **Chapter 1: Changing Perspectives on the Environment**

1. Overview of Environmental Issues
2. Economic Approaches to the Environment
3. Principles of Ecological Economics
4. A Look Ahead

#### **Chapter 2: Resources, Environment, and Economic Development**

1. Overview of Economic Growth
2. Economic Growth in Recent Decades
3. Environmental Trends in Recent Decades
4. Optimists and Pessimists
5. Sustainable Development

## PART TWO

### ECONOMIC ANALYSIS OF ENVIRONMENTAL ISSUES

#### **Chapter 3: The Theory of Environmental Externalities**

1. The Theory of Externalities
  2. Welfare Analysis of Externalities
  3. Property Rights and the Environment
- Appendix 3.1: Supply, Demand, and Welfare Analysis  
Appendix 3.2: Externality Analysis: Advanced Material

**Chapter 4: Common Property Resources and Public Goods**

1. Common Property, Open Access, and Property Rights
2. The Environment as a Public Good
3. The Global Commons

**Chapter 5: Resource Allocation Over Time**

1. Allocation of Non-Renewable Resources
2. Hotelling's Rule and Time Discounting

**Chapter 6: Valuing the Environment**

1. Total Economic Value
2. Overview of Valuation Techniques
3. Revealed Preference Methods
4. Stated Preference Methods

**Chapter 7: Cost-Benefit Analysis**

1. Overview of Cost-Benefit Analysis
  2. Balancing the Present and Future: The Discount Rate
  3. Valuing Human Life
  4. Other Issues in Cost-Benefit Analysis
  5. Cost-Benefit Analysis Example
  6. Conclusion: The Role of Cost-Benefit Analysis in Environmental Policy Decisions
- Appendix 7.1: Using Excel to Perform Present Value Calculations

**Chapter 8: Pollution: Analysis and Policy**

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2. Policies for Pollution Control
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4. Assessing Pollution Control Policies
5. Pollution Control Policies in Practice

## PART THREE

### ECOLOGICAL ECONOMICS AND ENVIRONMENTAL ACCOUNTING

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2. Natural Capital
3. Issues of Macroeconomic Scale
4. Long-Term Sustainability

#### **Chapter 10: National Income and Environmental Accounting**

1. Greening the National Income Accounts
  2. Green GDP
  3. Adjusted Net Saving
  4. The Genuine Progress Indicator
  5. The Human Development Index and the Better Life Index
  6. Environmental Asset Accounts
  7. The Future of Alternative Indicators
- Appendix 10.1: Basic National Income Accounting

## PART FOUR

### ENERGY, CLIMATE CHANGE, AND GREENING THE ECONOMY

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1. Energy and Economic Systems
2. Evaluation of Energy Sources
3. Energy Trends and Projections
4. Energy Supplies: Fossil Fuels
5. Renewable Energy Sources
6. The Economics of Alternative Energy Futures
7. Policies for the Great Energy Transition

**Chapter 12: Global Climate Change: Science and Economics**

1. Causes and Consequences of Climate Change
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**Chapter 13: Global Climate Change: Policy Responses**

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2. Climate Change Mitigation: Economic Policy Options
3. Climate Change: The Technical Challenge
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5. Other Economic Proposals: Environment and Equity
6. Conclusion: Dimensions of Climate Change

**Chapter 14: The Green Economy**

1. The Green Economy: Introduction
2. The Relationship between the Economy and the Environment
3. Industrial Ecology
4. Does Protecting the Environment Harm the Economy?
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**PART FIVE****POPULATION, AGRICULTURE, AND RESOURCES****Chapter 15: Population and the Environment**

1. The Dynamics of Population Growth
2. Predicting Future Population Growth
3. The Theory of Demographic Transition
4. Population Growth and Economic Growth
5. Ecological Perspectives on Population Growth
6. Population Policies for the Twenty-First Century

**Chapter 16: Agriculture, Food and Environment**

1. Feeding the World: Population and Food Supply
2. Trends in Global Food Production
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2. Economic Theory of Non-Renewable Resource Use
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**Chapter 18: Renewable Resource Use – Fisheries**

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2. Ecological and Economic Analyses of Fisheries
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4. Policies for Sustainable Fisheries Management

**Chapter 19: Ecosystem Management – Forest Ecosystems**

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**Chapter 20: Water Systems**

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2. Addressing Water Shortages
3. Water Pricing
4. Water Rights, Water Markets, and Privatization
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### **ENVIRONMENT, TRADE, AND DEVELOPMENT**

#### **Chapter 21: World Trade and the Environment**

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3. Trade Agreements and the Environment
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