

Environmental Economics - An Introduction 2024
Release 1st edition Field Test Bank

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Correct answers located at the end of the chapter.

MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

- 1) A(n)_____ in the economic world is something that leads people to channel their production and consumption efforts in a specific direction.
 - A) moral obligation
 - B) economic incentive
 - C) property right
 - D) ethical motive
- 2) Any economic system will produce destructive environmental impacts if the _____ within the system are not structured to avoid them.
 - A) ethics
 - B) prices
 - C) property rights
 - D) incentives
- 3) An economy that has the ability to allow the level of people's well-being to rise or at least remain constant over time is _____.
 - A) sustainable
 - B) equitable
 - C) self-perpetuating
 - D) efficient
- 4) People make the decision to pollute or not based on _____.
 - A) incentives
 - B) social institutions
 - C) economic institutions
 - D) All of the choices are correct.
- 5) _____ organizations are more likely to respond to incentives that encourage pollution.
 - A) For profit
 - B) Not for profit
 - C) Government
 - D) All organizations are equally likely polluters.
- 6) Positive economics is the study of _____.
 - A) what will be
 - B) what is
 - C) beneficial economic outcomes
 - D) economic outcomes that are most likely
- 7) _____ would include a study of what the economic penalties for water pollution should be.
 - A) Normative economics
 - B) Legal economics
 - C) Judicial economics
 - D) Market economics

- 8) _____ organizations are more likely to respond to incentives that discourage pollution.
- A) For profit
 - B) Not for profit
 - C) Government
 - D) All of the choices are correct.
- 9) The economic approach to issues of the environment can be directly contrasted with the _____, while the former relies on analytic models and incentives to explain environmental quality the latter interprets environmental degradation as a result of _____.
- A) analytic approach; negative externality
 - B) direct approach; indirect policy
 - C) moral approach; unethical behavior
 - D) positive approach; opportunity cost
- 10) The total costs of environmental pollution include
- A) expenditures of private businesses to comply with regulations
 - B) damage costs of pollution suffered by the exposed population
 - C) costs that government agencies incur in planning and enforcement of regulations
 - D) All of the choices are correct.
- 11) The technical name for the PAYT (pay as you throw) waste disposal program implemented in southern Maine communities, that charged a set price for each bag of trash is _____.
- A) municipal incentive
 - B) ineffective policy
 - C) flat fee
 - D) unit pricing
- 12) Command and control policies refer to
- A) communist government approaches to pollution control.
 - B) regulations and laws that directly/indirectly specify pollution control technology.
 - C) tax and spend pollution policy.
 - D) regulation of pollution by the US military.
- 13) Examples of incentive-based programs include all but _____.
- A) emissions charges
 - B) emissions taxes
 - C) command and control programs
 - D) market-based trading programs
- 14) Perverse incentives _____.
- A) are financial incentives aimed at minors
 - B) are incentives that only affect those who do not pollute
 - C) are flat fee incentives that disproportionately affect the poor
 - D) work against the overall objectives of a policy

15) Which of the following environmental policy issues would be considered a macroeconomic concern?

- A) potential tradeoffs between environmental protection and GDP growth
- B) wage rates in envirotech industries
- C) federal policy that regulates the oil industry
- D) federal policy that regulates the energy industry

16) Environmental policies have triggered all of the following macroeconomic concerns except

- A) stricter environmental policies retard economic growth.
- B) stricter environmental policies are associated with socialism.
- C) stricter environmental policies reduce employment.
- D) higher economic growth rates are associated with environmental degradation.

17) While the private sector may judge the effectiveness of environmental policy through the analysis of its effect on their _____, the public sector judges the impact of environmental policy through _____.

- A) employees; elections
- B) benefit-cost analysis; non-profit statement
- C) advertising; congress
- D) profit-and-loss statement; benefit-cost analysis

18) Benefit-cost studies are often associated with political struggles, with environmental groups typically emphasizing

- A) democratic principles.
- B) the benefits of environmental programs and policies.
- C) the reduced costs associated with environmental programs and policies.
- D) the electability of politicians who are pro-environment.

19) The benefits of environmental improvement are typically_____.

- A) easy to evaluate, but costs are not
- B) accrued to individuals and not society
- C) nonmarket in nature
- D) openly traded in the market

- 20) Globalization is a term used to refer to the changes taking place in the world economy, including all of the following except
- A) trade among nations.
 - B) multinational firms and conglomerates.
 - C) privatization of economic institutions.
 - D) local landfill management.
- 21) Many environmental issues are local or regional; however, some are international or global in scope. An example of a global environmental issue is_____.
- A) destruction of stratospheric ozone
 - B) greenhouse gases
 - C) global climate change
 - D) All of the choices are correct.
- 22) The fact that environmental policy is subject to politics means_____.
- A) efficiency issues must be ignored
 - B) economists must work to increase voter turnout
 - C) economists must deal with distribution or social justice questions
 - D) environmental economics has little influence on which policy is implemented
- 23) One persuasive argument that the profit motive is not solely the cause of pollution is_____.
- A) the success of not-for-profit envirotech companies
 - B) the environmental destruction experienced in many countries with ex-Communist regimes
 - C) the stock value of solar energy firms
 - D) the popularity of environmentally friendly household cleaners
- 24) Environmental economics is the application of the principles of economics to the study of the use of environmental resources. As such, it draws mostly from the field of_____.
- A) microeconomics
 - B) environmental science
 - C) operations research and supply chain management
 - D) macroeconomics
- 25) Economics is the study of how and why individuals and groups make decisions about the use and distribution of_____.
- A) money
 - B) time
 - C) human and non-human resources
 - D) capital

26) All of the following are difficulties with relying on morality or ethics to combat pollution control problems, except

- A) moral rebuilding takes a long time.
- B) the separation of church and state prevents moral influence in policy.
- C) pollution problems compete for resources with other moral issues (poverty, housing, etc.).
- D) people do not pollute because they are morally underdeveloped.

27) Although the value of the total social cost of pollution has never actually been estimated for the U.S., it is a substantial fraction of the country's GDP. Former director of the EPA, William Reilly stated that

- A) "at this level of expenditure, there's a very large obligation to get it right."
- B) "the US can no longer afford pollution control."
- C) "private firms that pollute must reimburse the public for these expenses."
- D) "the mission of the EPA is to reduce the cost of pollution control."

28) Microeconomic topics and studies would include

- A) changes in GDP.
- B) rates of inflation.
- C) wage rates in the energy industry.
- D) the unemployment rate.

29) A cost effective policy regarding CO₂ emissions would ensure

- A) the highest benefit cost ratio.
- B) the largest emission reduction for the resources spent.
- C) the greatest amount of utility per capita.
- D) that each pollution source reduced their emissions by the same percentage amount.

30) Pollution control policies are of special importance to developing countries. Many have embraced _____ policy approaches along with heavy reliance on _____.

- A) market based; US regulatory leadership
- B) international trade; renewable energy sources
- C) international; the legal system
- D) command and control; voluntary pollution control

- 31) Emissions charges are
- A) also called emissions taxes
 - B) a form of command-and-control policy
 - C) the same as fines for pollution
 - D) All the choices are correct.
- 32) The inverted-U model, comparing GDP per capita to environmental degradation, shows greatest environmental degradation occurring with
- A) pre-industrial economies.
 - B) industrial economies.
 - C) post-industrial economies.
 - D) None of the choices are correct.
- 33) The influence of economists on environmental issues over the last decade has
- A) increased.
 - B) decreased.
 - C) not changed.
 - D) cannot be determined.
- 34) Economics is a study of
- A) people's behavior.
 - B) resource scarcity.
 - C) decision making.
 - D) All the choices are correct.
- 35) Economists believe people pollute because
- A) people don't care.
 - B) people have too many options for their time.
 - C) governments are filled with corruption.
 - D) pollution is the cheapest waste disposal method of waste products.

Answer Key

Test name: Chapter 01

- 1) B
- 2) D
- 3) A
- 4) D
- 5) D
- 6) B
- 7) A
- 8) D
- 9) C
- 10) D
- 11) D
- 12) B
- 13) C
- 14) D
- 15) A
- 16) B
- 17) D
- 18) B
- 19) C
- 20) D
- 21) D
- 22) C
- 23) B
- 24) A
- 25) C
- 26) B
- 27) A
- 28) C
- 29) B
- 30) D
- 31) A
- 32) B
- 33) A
- 34) D
- 35) D

Instructor's Manual to Accompany
ENVIRONMENTAL ECONOMICS
An Introduction

2024 Release

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Table of Contents

Preface	<u>2</u>
Section I. Introduction	
Chapter 1. What Is Environmental Economics?	<u>4</u>
Chapter 2. The Economy and the Environment.....	<u>6</u>
Section II. Analytical Tools	
Chapter 3. Benefits and Costs, Supply and Demand	<u>9</u>
Chapter 4. Markets, Externalities, and Public Goods	<u>15</u>
Chapter 5. The Economics of Environmental Quality.....	<u>19</u>
Section III. Environmental Analysis	
Chapter 6. Frameworks of Analysis	<u>24</u>
Chapter 7. Benefit–Cost Analysis: Benefits.....	<u>28</u>
Chapter 8. Benefit–Cost Analysis: Costs	<u>34</u>
Section IV. Environmental Policy Analysis	
Chapter 9. Criteria for Evaluating Environmental Policies.....	<u>37</u>
Chapter 10. Decentralized Policies: Liability Laws, Property Rights, Voluntary Action...	<u>41</u>
Chapter 11. Command-and-Control Strategies: The Case of Standards	<u>47</u>
Chapter 12. Incentive-Based Strategies: Environmental Charges and Subsidies	<u>53</u>
Chapter 13. Incentive-Based Strategies: Market Trading Systems	<u>57</u>
Section V. Environmental Policy in the United States	
Chapter 14. Federal Water Pollution-Control Policy	<u>62</u>
Chapter 15. Federal Air Pollution-Control Policy.....	<u>67</u>
Chapter 16. Federal Policy on Toxic and Hazardous Substances	<u>71</u>
Chapter 17. State and Local Environmental Issues	<u>75</u>
Section VI. Global Environmental Issues	
Chapter 18. Global Climate Change.....	<u>78</u>
Chapter 19. International Environmental Agreements.....	<u>82</u>
Chapter 20. Globalization	<u>85</u>
Chapter 21. Economic Development and the Environment	<u>88</u>

Preface

Environmental Economics, An Introduction is designed as a text for a one-semester course. It is based on courses we have taught for many years, courses predicated on the notion that the subject is interesting and important enough to be presented to a wide audience of lower-division students, rather than delayed until students have negotiated a set of prerequisite courses. Thus, the book is meant to be used by students *who have not necessarily had any economics yet*. Nevertheless, the book is intended to have a distinctly analytical perspective. Given these objectives, it's necessary to focus on a limited number of primary concepts—incentives, efficiency, the equimarginal principle, cost-effectiveness, and so on. It's also necessary, in the later chapters on domestic and international environmental policy, to concentrate on the main stories and avoid getting drawn into the endless details that these subjects contain.

After the first two introductory chapters, there are three chapters on the most basic of economic principles. These are probably about the minimum for someone who has never had any economics. In writing these chapters, there was a continuing temptation to go for a slightly higher level of sophistication. We tried very hard to resist this, to keep clearly in mind the type of student for whom the book is primarily intended. We would hope that students who have had, say, introductory micro, would find these chapters a useful review.

In this instructor's manual, we have worked through each of the chapters, discussing (a) updates of subjects that are new to the chapter in this edition, (b) the objectives of each, (c) main ideas covered, (d) points of discussion (cautions, techniques we have found useful, possible extensions, etc.), and (e) brief answers to each of the questions for further discussion.

The book is 21 chapters long, perhaps too long for students to get through completely under normal circumstances. The book is divided into sections so that different instructors can emphasize the material they find most useful. After having gone through Sections I and II, you may wish to pick and choose chapters from the other sections depending on the relative emphasis you wish to put on: (a) benefit–cost analysis, (b) policy analysis, (c) U.S. environmental policy, and (d) international issues.

The questions at the end of the chapters are called “discussion” questions, but they are perhaps more specific than this label implies. For the most part, they are not meant to lead to open-ended discussion but have answers that we hope are more or less correct. They are designed to lead students toward making modest extensions of the ideas covered, which should help them both review the material and perhaps think more deeply about it.

The exhibits presented throughout the chapters are for the purpose of illustrating points in the text. The objective is to show students that the economic ideas we are discussing in the classroom are actually at work in the real world.

Appendix A of acronyms and abbreviations is updated. We recommend highlighting this feature for students. A short, matching quiz of about 10 of the most used acronyms or abbreviations, like the EPA, helps plug students into the lingo of environmental economics.

Appendix B is a list of websites, which can be found in the Instructor's Resources area of Connect.

The 2024 Release of the book preserves the basic structure of the earlier editions. Some of the new material we have added includes:

- | | |
|--|-------------------------|
| • Forever Chemicals (PFAS) | Chapter 16 |
| • Toxics and Drinking Water Contamination | Chapter 14 |
| • Circular Economy | Chapters 2 and 17 |
| • Natural Capital | Chapter 2 |
| • Economics of Technical Change | Chapter 5 |
| • Paris Agreement and Subsequent COP Meetings | Chapters 18, 19, and 21 |
| • Environmental Justice | Chapters 9 and 16 |
| • Economics of Subsidies & the Inflation Reduction Act | Chapter 15 |
| • Carbon Offset Markets | Chapter 13 |
| • Electric Vehicles and Energy Intensity | Chapter 15 |
| • Green Technology Transfer and Developing Countries | Chapter 21 |

Chapter 1

What Is Environmental Economics?

Updates for 2024 Release

Chapter 1 includes updates on climate change data, specifically for exhibits on carbon taxes and CO₂ emissions. The emphasis on incentives as a key concept remains consistent with previous editions.

Objectives

The purpose of this chapter is to whet students' appetites, by presenting them with some examples of the types of problems environmental economists work on and some of the approaches they take. Most of the examples are illustrated with short exhibits to increase their immediacy. They are meant to be sketches that are easily understandable by students, without the need of devoting a lot of class time to their deeper interpretation.

Main Points

At this juncture, there are just two leading ideas to emphasize: (a) the critical role of incentives in producing environmental degradation and in designing environmental policies and (b) the importance of studying the short- and long-run benefits and costs of environmental improvements.

Teaching Ideas

It is especially important to set a positive tone early. Most students will come to the class as environmental advocates. With its attention to costs, trade-offs, and notions of efficiency, environmental economics can seem for many to lead toward a weakening of the forces of environmental advocacy and to lower aspiration levels for environmental improvements. That is why many environmental advocacy groups look at environmental economics with a jaundiced eye. It's important to begin getting the message across that this is incorrect, that, instead, the subject will prove to be very useful in such things as designing environmental policies with more teeth than some of those we have had in the past, getting more environmental improvement from the resources we devote to these programs, and learning more about the real levels of environmental damages and the values people put on improving the natural environment.

Many students will also come to the class with the simplistic notion that environmental deterioration is primarily a result of "capitalism," where decisions are

presumably made with reference only to the bottom line and not to wider social or ecological concerns. A critical proposition of environmental economics is that uncontrolled markets will indeed underprice environmental pollution, which calls for public policy and regulatory action to rectify the situation. Environmental pollution is not a result of markets per se but of unregulated markets. An essential message is that environmental pollution will occur in any system if the incentive system is not structured appropriately.

One other preconception that students sometimes have is that environmental quality issues are exclusively issues of the natural, biological, and medical sciences. In this view, the best decisions will become manifest as a result of the application of these sciences with enough diligence. The idea that human preferences should have anything to do with decisions about environmental quality will very often strike them as curious, if not downright wrong. It is never too early to start discussing this.

Answers to Discussion Questions

We have not included discussion questions for this first chapter.