The Earth Policy Reader

OTHER NORTON BOOKS BY LESTER R. BROWN

Eco-Economy: Building an	<i>Full House</i>
Economy for the Earth	with Hal Ka
State of the World 1984	<i>The</i> Wo <i>rld</i> Wat
through 2001	editor
annual, with others	Saving the Plan
<i>Vital Signs 1992</i> through 2001	with Christo
annual, with others	and Sandra
Beyond Malthus	Building a Sust
with Gary Gardner	Running on En
and Brian Halweil	with Colin N
The World Watch Reader 1998	and Christo
editor with Ed Ayres	The Twenty-Na
Tough Choices Who Will Feed China?	In the Human

with Hal Kane The World Watch Reader 1991 editor Saving the Planet with Christopher Flavin and Sandra Postel Building a Sustainable Society Running on Empty with Colin Norman and Christopher Flavin The Twenty-Ninth Day In the Human Interest

Earth Policy Institute® is a nonprofit environmental research organization dedicated to providing a vision of an eco-economy and a roadmap on how to get from here to there. It seeks to reach a global constituency through its publications and the media. Its primary publications are *Eco-Economy: Building an Economy for the Earth, The Earth Policy Reader*, and a series of four-page Eco-Economy Updates that assess progress, or the lack thereof, in building an eco-economy. All of these can be downloaded at no charge from the EPI Web site.

Web site: <www.earth-policy.org>

THE EARTH POLICY READER

Lester R. Brown Janet Larsen Bernie Fischlowitz-Roberts

EARTH POLICY INSTITUTE®

W · W · NORTON & COMPANY NEW YORK LONDON

Contents

Copyright © 2002 by Earth Policy Institute® All rights reserved Printed in the United States of America	Acknowledgments Preface	ix xiii
First Edition	1. The Economic Costs of Ecological D	eficits
The text of this book is composed in Sabon. Composition by Elizabeth Doherty; manufacturing by the Haddon Craftsmen, Inc.	Deserts Invading China Advancing Deserts Gaining Momentum From Ecological Deficits to Dust Bowl Spreading Deserts: The Response The National Costs of Failure	7
ISBN 0-393-32406-0	The Worldwide Effect of Failure	
W. W. Norton & Company, Inc., 500 Fifth Avenue, New York, N.Y. 10110 www.wwnorton.com	Assessing the Food Prospect Soil: Surplus to Deficit The Fast-Growing Water Deficit The Changing Food Economy	29
W. W. Norton & Company, Ltd., Castle House, 75/76 Wells Street, London W1T 3QT	The Soybean Factor Future Food Security	
1 2 3 4 5 6 7 8 9 0	Facing the Climate Challenge The Rising Costs of Climate Change	59
	Restructuring the Energy Economy	

His book is printed on recycled paper.

Building the Wind-Hydrogen Economy Fixing the Market

2. Eco-Economy Indicators: Twelve Trends to Track

Population Growing by 80 Million Annually	87
Economic Growth Losing Momentum	91
Grain Harvest Growth Slowing	95
Fish Catch Leveling Off	99
Forest Cover Shrinking	103
Water Scarcity Spreading	108
Carbon Emissions Climbing	112
Global Temperature Rising	116
Ice Melting Everywhere	119
Wind Electric Generation Soaring	124
Bicycle Production Breaks 100 Million	129
Solar Cell Sales Booming	133

3. Eco-Economy Updates

Energy and Climate

U.S. Farmers Double Cropping Corn and	
Wind Energy	143
The Rise and Fall of the Global Climate Coalition	148
Climate Change Has World Skating on Thin Ice	153
OPEC Has World Over a Barrel Again	158
Wind Power: The Missing Link in The Bush	
Energy Plan	164
Population and Health	
Population Growth Sentencing Millions to	
Hydrological Poverty	169
Africa Is Dying—It Needs Help	174
HIV Epidemic Restructuring Africa's Population	180

Obesity Threatens Health in Exercise-Deprived Societies Iran's Birth Rate Plummeting at Record Pace	185 190
Food, Land, and Water	
Paving the Planet: Cars and Crops	
Competing for Land	195
Dust Bowl Threatening China's Future	200
Worsening Water Shortages Threaten China's	
Food Security	205
World's Rangelands Deteriorating Under	
Mounting Pressure	210
Forests, Fisheries, and Disappearing Species Fish Farming May Overtake Cattle Ranching as a Food Source Our Closest Relatives Are Disappearing	215 221
Illegal Logging Threatens Ecological and	221
Economic Stability	226
Ecological Economics	
Green Power Purchases Growing	231
New York: Garbage Capital of the World	236
Tax Shifting on the Rise	241
Notes	247

Contents

Acknowledgments

Earth Policy Institute exists today because Roger and Vicki Sant of the Summit Foundation shared a vision of an eco-economy and provided an extraordinarily generous startup grant last year. The Sants were joined by several foundations, including the Farview, Richard and Rhoda Goldman, William and Flora Hewlett, W. Alton Jones, Shenandoah, Turner, and Winslow foundations and the U.N. Population Fund, which generously supported our effort. The enthusiasm of two foundation heads, Harriett Crosby of the Farview Foundation and Ted Turner of the Turner Foundation, went beyond providing grants as they purchased copies of *Eco-Economy* by the carton for their own special distributions.

As a startup organization, it is especially heartening to receive unsolicited individual contributions. We are particularly indebted to Robert Wallace and Raisa Scriabine for their very generous contribution. I would also like to thank Junko Edahiro, who serves as my interpreter in Japan, for her generous contribution, and for organizing a highly successful fundraiser in Japan. The other key donors include Douglas and Debra Baker, Maureen Hinkle, Hadan and Reah Janise Kauffman, Tamae Kobayashi, James McManis, Scott and Hella McVay, Paul Myers and Welthy Soni, and Peter Seidel. We also thank the many other individuals who supported the Institute with contributions.

Production of this book was facilitated by an experienced team including three veterans—Linda Starke, Reah Janise Kauffman, and myself—who have produced many books together over a stretch of 16 years. Linda Starke, who has edited all the books I've written over the past 20 years, brought to the project both her editorial talent and deep knowledge of the issues. Her experience and insights were invaluable in coordinating production of this complexly structured book with three authors.

The other "veteran," Reah Janise Kauffman, Vice President of Earth Policy Institute, has worked with me for 16 years. Her understanding of the issues, of all of the phases of producing a book as well as running an organization, and of outreach, along with her enthusiasm and insight, are appreciated more than words can say. And in our small staff, where each of us wears several hats, Reah Janise also manages our worldwide publishing network, assists with fundraising and marketing, and manages the Web site.

Manager of Publications Sales Millicent Johnson handles our bookkeeping, makes sure all of our office needs are covered, and keeps us in good cheer. Her customer relations skills and knowledge of the intricacies of databases are invaluable. Elisha Triplett, Administrative Assistant, very ably manages our library, listserv, and news clips, and assists the research staff and occasionally me as well. Sadly we must soon bid Elisha farewell as she heads off to graduate school this fall.

And while it is not customary to thank coauthors, I would like to thank Janet Larsen, Research Associate, and Bernie Fischlowitz-Roberts, Staff Researcher, for their contributions to this volume. Janet helped me with research while also researching and writing her own pieces. Her leadership on this project has made my work much easier. When Bernie joined us last December he had hardly gotten his jacket off before he was assigned responsibility for making preliminary estimates of global wind power generating capacity for 2001. Since then he has worked on a wide range of climate and energy issues. The combined efforts of Janet and Bernie and their unflagging support contributed enormously to the finished product.

We were also fortunate to have Elizabeth Doherty, with whom we worked for four years at Worldwatch, doing the layout and design of the book. We benefited from both her professionalism and her sense of humor.

We are indebted to those who have reviewed various parts of this book. Toby Clark provided invaluable comments on Part 1, drawing on his long-standing interest in the interface between economics and ecology to offer numerous useful suggestions. Maureen Kuwano Hinkle drew on her 18 years of experience working on agriculture for the Audubon Society to provide useful comments on Parts 1 and 3. Reah Janise Kauffman made some structural suggestions that greatly improved the book. Others who reviewed various Eco-Economy Updates include Lisa Mastny and Randy Swisher.

Part 3 of *The Reader* is a compilation of previously released Eco-Economy Updates. Along this line, we would like to thank a unique group of people—those who voluntarily translate the Updates into other languages to be posted on Web sites and distributed on listservs. Li Kangmin translates them into Chinese <www.fish.net.cn>. UNESCO Catalunya translates them into Catalan <www.unescocat.org/llista.html>. Gianfranco Bologna translates them into Italian <www.wwf.it/worldwatch/cover.html>. Soki Oda translates them into Japanese <www.worldwatch-japan.org>, and Junko Edahiro sends out a Japanese translation via her listserv. In Brazil, Eduardo Athayde translates them into Portuguese <www.wwiuma.org.br> and distributes them on his listserv. Leif Ohlsson translates them into Swedish <www.smvk.se/Omvarldsbilder>.

We also thank those who supplied research information for the various components of the book. These include Farzaneh Bahar, Natalie Bailey, Adele Crispoldi, Fred Crook, Mike Ewall, Andrew Field, Robert Freling, Fred Gale, Ben Halpern, Nalin Kishor, Frank Langfitt, Wei Lui, Paul Maycock, Daniel Pauly, Gabe Petlin, Caroline Pollock, Farzaneh Roudi, Kai Schlegelmilch, Matthew Sones, Hamid Taravati, Sen Wang, Tao Wang, Christopher Ward, Timothy Whorf, and Sun Xiufang.

As we worked on the trends section, we were again reminded of how valuable the Worldwatch database is. *Vital Signs 2002* was especially helpful.

The team members at W.W. Norton & Company have been a pleasure to work with. This group includes Ingsu Liu, who patiently worked with us through various cover designs; Amy Cherry and Lucinda Bartley in the editorial department, who helped us keep to our deadlines; and the production team led by Andrew Marasia, who put the *Reader* on the fast track.

Lester R. Brown

PREFACE

The Earth Policy Institute, now just over a year old, is a new kind of research organization. It offers not only a vision of an environmentally sustainable economy—an eco-economy—but also frequent assessments of progress in realizing that vision. An early vision of an eco-economy was presented in *Eco-Economy: Building an Economy for the Earth*, published in November of 2001.

Since completing *Eco-Economy*, the Institute has released four-page Eco-Economy Updates every two weeks or so. These are included in Part 3 of this *Earth Policy Reader*.

One of Earth Policy's distinguishing features is its effort to reach a global constituency. To do this, it relies heavily on a worldwide network of publishers to translate and market its books. *Eco-Economy* is being published in 17 languages and 21 editions. The languages include Arabic, Catalan, Chinese, French, Indonesian, Italian, Japanese, Korean, Persian, Polish, Portuguese (in Brazil), Romanian, Russian, Spanish, Turkish, and Ukrainian. There are three English editions (US/Canada, UK/Commonwealth, and India), two Chinese editions (mainland China and Taiwan), and two Spanish editions (Spain and Latin America). Most of the publishers in this network will also be publishing *The Earth Policy Reader*. (For information on the various language publications, please refer to our Web site, <www.earth-policy.org>.)

Earth Policy relies heavily on the communications media, both print and electronic, to disseminate its research results. These include, for example, the big three global electronic networks—the BBC, Voice of America, and CNN—and the major-language wire services, ranging from the German Press Agency to Xinhua in Chinese.

Each Eco-Economy Update is automatically distributed to our worldwide press e-mail and fax lists, totaling some 1,200 editors and reporters. One of the highlights of publishing *Eco-Economy* was the 14 excerpts published in magazines, including *The Ecologist*, *The Futurist*, *The Humanist*, *Mother Earth News*, and *Solar Today. Luup*, a Finnish news magazine, did a seven-page cover story on *Eco-Economy*.

Perhaps the most dynamic component of the Institute's outreach program is the dissemination of information via the Internet. The Updates are distributed on the Institute's own listsery, which now contains nearly 7,000 addresses, including both individuals and organizations. We are delighted that many of them now distribute the Updates on their own listservs.

In addition to news coverage of the Updates, many newspapers and magazines print them in their entirety. Among the newspapers that regularly carry the Updates are *Yomiuri* in Japan, which with a circulation of 10.2 million is the world's largest newspaper; *The Hindu* in India, a national English language newspaper; and *Hamshahri*, a leading Iranian newspaper. The Korean Federated Environmental Movement publishes them in its monthly magazine, *Hamggesaneungil*.

There are also more than a dozen electronic news networks and Web sites that regularly carry or cover the Updates, such as the Environment News Service and the UN Foundation Newswire.

The enthusiasm with which the Updates have been received led us to compile them in this book. Part 3, entitled Eco-Economy Updates, contains some 20 Updates. Several others have been used in Part 2, in the Eco-Economy Indicators section, a collection of 12 trends to track in assessing progress in building an eco-economy.

Part 1 of the book looks at the ecological deficits that the world is now facing and at their effect on the food and energy economies. It begins with an in-depth examination of the effect of ecological deficits on China, which is now being invaded by advancing deserts. It contains some of our latest research findings, including those from my May 2002 field trip in China, which included Inner Mongolia and Gansu, two provinces directly affected by expanding deserts.

The Earth Policy presence in China has benefited greatly from the efforts of Lin Zixin. Mr. Lin worked closely with the International Technology and Economics Institute, an arm of the State Council, which sponsored *Eco-Economy* and hosted my visit to China. He also assembled the skilled team of translators and supervised the production of the Chinese edition for the People's Publishing House.

We have been pleased with the response of political leaders to *Eco-Economy*. The Romanian edition, for example, was launched by President Ion Iliescu in late January 2002.

The corporate interest in *Eco-Economy* was reflected in an invitation to address the Business Council. *Worldlink*, the magazine of the World Economic Forum in Davos, published a five-page feature adapted from *Eco-Economy*. U.S. News and World Report devoted three pages to a story on the enormous potential of wind power, which was inspired by *Eco-Economy*. Within the foundation community, a number of foundations distributed copies of *Eco-Economy* to their directors, including the Educational Foundation of America, the Rasmussen Foundation, the Summit Foundation, the Turner Foundation, the Wallace Genetic Foundation, and the Weeden Foundation. In addition, the Turner Foundation distributed nearly 1,000 copies to their grantees, seeing it as a way to develop a shared vision of an eco-economy Environmental groups that are marketing *Eco-Economy* range from the American Wind Energy Association to Population Connection (formerly Zero Population Growth).

As part of our dissemination effort, all of our research products, including this book, are available on our Web site. Permission for reprinting or excerpting portions of the book can be obtained from Reah Janise Kauffman at <rjkauffman@earth-policy.org> or by fax or mail. If you would like to receive our Eco-Economy Updates as they are released, please sign up via our Web site, or send us a note by e-mail.

We welcome your input, including any thoughts or recent papers or articles you would like to share with us.

Lester R. Brown

xvi

Earth Policy Institute 1350 Connecticut Ave., NW, Suite 403 Washington, DC 20036

phone: 202.496.9290 fax: 202.496.9325 e-mail: epi@earth-policy.org Web site: www.earth-policy.org

The Earth Policy Reader

July 2002