

THE SKEPTICAL ENVIRONMENTALIST REPLIES



Recently *Scientific American* published “Misguided Math about the Earth,” a series of essays that criticized Bjørn Lomborg’s *The Skeptical Environmentalist*. Here Lomborg offers his rebuttal

After *Scientific American* published an 11-page critique of my book *The Skeptical Environmentalist* in January, I’ve now been allowed a one-page reply. Naturally, this leaves little space to comment on particulars, and I refer to my 32-page article-for-article, point-for-point reply at www.lomborg.org and on the *Scientific American* Web site (www.sciam.com).

I believe many readers will have shared my surprise at the choice of four reviewers so closely identified with environmental advocacy. *The Economist* summarized their pieces as “strong on contempt and sneering, but weak on substance.”

The book was fundamentally misrepresented to the readers of *Scientific American*. I would therefore like to use this opportunity to stake out some of the basic arguments.

I take the best information on the state of the world that we have from the top international organizations and document that generally things are getting better. This does *not* mean that there are no problems and that this is the best of all possible worlds, but rather that we should not act on myths of gloom and doom. Indeed, if we want to leave the best possible world for our children, we must make sure we first handle the problems where we can do the most good.

Take global warming, where Stephen Schneider berates me for neglecting and misunderstanding science and failing to support the Kyoto Protocol. But in my book I clearly use the U.N.’s Intergovernmental Panel on Climate Change (IPCC) as key documentation, and all the uncertainties notwithstanding, I accept that science points to anthropogenic global warming. (This is in contrast to the contrarians who deny global warming or indeed to early work of Schneider, who suggested that we could be heading for a new ice age.)

Schneider claims that I don’t understand the research in

studies by Richard S. Lindzen and by the Danish solar scientists. Yet Lindzen replies: “... at one fell swoop, Schneider misrepresents both the book he is attacking and the science that he is allegedly representing.” And the solar scientists: “It is ironic that Stephen Schneider accuses Lomborg of not reading the original literature, when in his own arguments against Lomborg he becomes liable to similar criticism.”

With global warming our intuition says we should do something about it. While this intuition is laudable, it is not necessarily correct—it depends on comparing the cost of action to the cost of inaction and the alternative good we could do with our resources. We should not pay for cures that cost us more than the original ailment.

The Kyoto Protocol will do very little good—it will postpone warming for six years in 2100. Yet the cost will be \$150 billion to \$350 billion annually. Because global warming will primarily hurt Third World countries, we have to ask if Kyoto is the best way to help them. The answer is no. For the cost of Kyoto in just 2010, we could once and for all solve the single biggest problem on earth: We could give clean drinking water and sanitation to every single human being on the planet. This would save two million lives and avoid half a billion severe illnesses every year. And for every following year we could then do something equally good.

Schneider tells us that we need to do much more than Kyoto but does not tell us that this will be phenomenally more expensive. His attitude is the sympathetic reaction of a traditional environmentalist: solve the problem, no matter the cost. But using resources to solve one problem means fewer resources for all the others. We still need the best information on science, costs and benefits.

Take biodiversity. Thomas Lovejoy scolds me for ignoring

loss of species. But no. I refer to the best possible U.N. data, and I accept that we are causing species extinction at probably about 1,500 times the natural rate. But unlike the traditional environmentalist who feels we have to do whatever is needed to stop it, I also ask how big this means the problem is. Answer: Over the next 50 years we might lose 0.7 percent of all species. (This contrasts both to contrarians who deny species extinction and to Lovejoy's wildly excessive warning from 1979 of a 20 percent species loss from 1980 to 2000.) By the end of this century the U.N. expects we will have *more* forests, simply because even inhabitants in the developing countries will be much richer than we are now. Thus, the species loss caused by the real reduction in tropical forest (which I acknowledge in the book) will probably not continue beyond 2100.

Take all the issues the critics *did not even mention* (about half my book). We have a world in which we live longer and are healthier, with more food, fewer starving, better education, higher standards of living, less poverty, less inequality, more leisure time and fewer risks. And this is true for both the devel-

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Disappointingly, Lomborg has chosen to fill his print response with half-truths and misdirection. Perhaps in this brief space he felt that he could do no better, but critics of The Skeptical Environmentalist also find such tactics to be common in his book. He implies that he has been wronged in getting so little space; our 11-page set of articles is a response to the 515-page volume in which he made his case, and which was widely and uncritically touted in the popular media. (Long before our article, for instance, The Economist gave him four unanswered pages for an essay.) So far it is the scientists who are having a harder time getting equal space for their side. Anyone still interested in this controversy will find on www.sciam.com our original articles and Lomborg's detailed rebuttal of them, along with refutations to his rebuttal.

Lomborg and The Economist may call them "weak on substance," but our pieces echo identical criticisms that have been made in reviews published by Nature, Science, American Scientist, and a wide variety of other scientific sources—not venues where insubstantial criticisms would hold up.

Lomborg's stated proof that he understands the climate science is that he relies on the IPCC's report, but the argument of Schneider (and other climatologists) is of course that Lomborg picks and chooses aspects of that report that he wants to embrace and disregards the rest. Lomborg boasts that he isn't a global-warming denier, but how is that relevant? The criticism against him is not that he denies global warming but that he oversimplifies the case for it and minimizes what its consequences could be. The reference to Schneider's theories about global cooling reaches back three decades; all good researchers change their views as new facts emerge. How does this bear on the current debate except as personal innuendo?

As in his book, Lomborg repeats that the Kyoto Protocol would postpone global warming for only six years. This is an empty, deceptive argument because the Kyoto Protocol isn't meant to solve the problem by itself; it is a first step that establishes a framework for getting countries to cooperate on additional measures over time. The

oped and the developing world (although getting better, some regions start off with very little, and in my book I draw special attention to the relatively poorer situation in Africa). Moreover, the best models predict that trends will continue.

Take air pollution, the most important social environmental indicator. In the developed world, the air has been getting cleaner throughout the century—in London, the air is cleaner today than at any time since 1585! And for the developing countries, where urban air pollution undeniably is a problem, air pollution will likewise decline when they (as we did) get sufficiently rich to stop worrying about hunger and start caring for the environment.

*While I understand the traditional environmentalist's intuitive abhorrence of prioritization, I believe that the cause of environmentalism is not well served by the *Scientific American* feature, clearly trying to rubbish the whole project. If we want to build an even better tomorrow, we need to know both the actual state of the world and where we can do the most good. I have made an honest effort to provide such an overview, based on science and with all the references clearly indicated.*

cost projections Lomborg uses represent one set of estimates, but far more favorable ones exist, too. Given that the additional anti-warming steps that might be taken aren't yet known—and so their net costs are impossible to state—it is premature to dismiss them as "phenomenally more expensive."

As Lovejoy's article and others have noted, Lomborg's simplistic treatments of biodiversity loss and deforestation are inappropriately dismissive of well-grounded concerns that those numbers could range far higher. (And why resurrect a claim in a paper that Lovejoy wrote 23 years ago when he and others have far more recent estimates?) Moreover, one problem of Lomborg's statistical methodology is that it tends to equate all items within a category regardless of how valuable or different the individual elements are. For example, there may be more forest in 2100 than there is today, but much of that will be newly planted forest, which is ecologically different (and less biodiverse) than old forest.

When Lomborg restates the number of lost species as a percentage of total species, is he simply showing the true size of the problem or is he perhaps also trying to trivialize it? By analogy, in 2001 AIDS killed three million people, with devastating effects on societies in Africa and elsewhere. But that was only 0.05 percent of all humans. Which number is more helpful in setting a public health agenda for AIDS? The answer is neither, because numbers must be understood in context; Lomborg creates a context for belittling extinction problems.

Lomborg is being disingenuous when he protests that our authors did not even mention half his book. As our preface to the feature stated, we asked the authors to comment specifically on just four chapters. The flaws in those sections alone discredit his argument.

Environmental scientists are all in favor of setting priorities for action; Lomborg pretends otherwise because he disagrees with the priorities they set. Even if his effort to describe the "actual state of the world" (a naive goal, given the world's complexity and the ambiguity of even the best evidence) is honest, his argument is not credible. And by sowing distrust of the environmental science community with his rhetoric, Lomborg has done a severe disservice not only to those scientists but also to the public he has misinformed.

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