

When Facts Become An Endangered Species

*The Skeptical Environmentalist:
Measuring the Real State of the World*

Bjorn Lomborg

Cambridge University Press, 2001, 496pp,
\$49.95, ISBN 0 521 090683

Reviewed by Richard Stone

Bjorn Lomborg is, in his own words, 'an old left-wing Greenpeace member' (p. xix) who teaches statistics at Aarhus University in Denmark. His book, *The Skeptical Environmentalist*, was conceived in 1997 when he read an interview with the famous US economist Julian Simon, in which Simon asserted that officially accepted statistics showed almost all our major environmental fears to be unfounded. Lomborg was provoked to undertake an exhaustive assessment of these claims, confident that this would confirm his existing beliefs and expose Simon's talk as 'simple, American right-wing propaganda' (p. xix).

His research, covering all the main global environmental issues, showed him, however, that with a few caveats Simon was overwhelmingly right. Lomborg came to realise that the endlessly repeated claims of environmental damage he had assumed true—what he now aptly calls the 'Litany of our ever-deteriorating environment'—were in fact largely mythical, and that the unquestioned acceptance of this Litany was doing grave damage to public policy, particularly regarding the developing world.

In meticulously setting out these findings and some of their implications for public policy and modern environmentalism, *The Skeptical Environmentalist* represents one of the most important contributions to public policy written in recent times.

The book as a whole

Two overall points should be noted about the book. First, in examining familiar apocalyptic claims about global environmental exploitation and its alleged

impacts, *The Skeptical Environmentalist* explores many areas of vital interest outside the strict confines of environmentalism—trends in human health and welfare, development economics, globalisation and trade, the effects of technology and industry among others. As such, it is almost as valuable for those interested in these issues in their own right as for those seeking the truth about the Earth's environmental condition.

Secondly, one of the book's chief purposes is to be a comprehensive reference source. Its greatest strength lies in being overwhelmingly preoccupied with the *empirical* assessment of environmental issues, and in performing this in as scientifically rigorous a way as possible. In the initial two survey chapters and short final chapter Lomborg permits himself some room for personal judgment on those whose claims he has been analysing, and for discussing the policy implications of his analysis. But even here his remarks are restrained and tightly tethered to specifics. In the main body of the book he is scrupulously careful in drawing policy conclusions from his evidence, concerning himself above all just with the truth of claims and the current balance of evidence.

On this score, Lomborg pre-emptively defuses any accusations of selectivity in *his* choice of statistics by using only mainstream sources—reports of UN agencies, the World Bank, IMF and OECD, or scientific journals like *Nature* and *Science*—and, wherever possible,

Richard Stone, who has a PhD in mathematics from MIT, recently returned to Australia after teaching at Boston University.

exactly the *same* sources as those whose claims he is analysing. The book is exhaustively referenced to allow checking of his analysis, with many of these references available on the internet.

There is, of course, a considerable challenge in writing a book for general consumption that is dense with scientific, economic and statistical analysis. Lomborg succeeds because his style is clear and readable, and because he has taken great care in organising it.

Each chapter covers only a single topic (for example, food and hunger, forests, energy, acid rain, or biodiversity) and these are largely self-contained, allowing a reader seeking information on that topic alone to focus on just the relevant one. Moreover, Lomborg's arrangement of these chapters into six parts provides a coherent path towards a full assessment of the state of the planet.

Part I summarises current environmental orthodoxy and the chief claims of the Litany. Part VI contains Lomborg's summary of his findings, and concluding reflections. In between lies the heart of the book, measuring the true condition of the global environment and the accuracy of the current public perception of it.

The state of the planet—human welfare, sustainability and pollution

In Part II Lomborg examines the fundamental issue of trends in human welfare, in both the developed and third world.

He begins with population growth, one of the most potent environmental fears. He notes, however, the massive decline in fertility rates in recent decades. These are now at or below replacement across the developed world, and more than halved in most of the third world, the exception being parts of Africa where the inexorable effect of economic development in reducing family size has been retarded by political and economic stagnation (the first example of one of Lomborg's most powerful observations—that many problems framed as environmental issues in the West are really problems of poverty and *lack* of growth in the third world).

The UN now estimates world population stabilising near 11 billion in 2200, well below estimates of 30 years ago. Moreover, the rapid growth in world

population in the last two centuries actually reflects, in the memorable words of one UN consultant, 'not that people suddenly started breeding like rabbits; it's just that they stopped dying like flies' (p. 46).

The statistics are breathtaking. Life expectancy in the West has increased by around 30 years in the last century alone and more than doubled since the Industrial Revolution. As recently as the 1930s life expectancy in China was only 24; in India in 1906 it was 25. Both countries have since added around 40 years to average lifespans, an achievement emulated across the third world. The chief explanation is a staggering reduction in infant mortality emulated around the globe.

Reflecting modern advances in science, medicine and sanitation this achievement is surely not a cause for regret but, in Lomborg's words, 'one of the great miracles of our civilisation' (p. 50).

This improvement in survival has not come at the expense of deterioration in other measures. We suffer much less sickness than in pre-industrial times, with massive declines in infectious diseases¹ and near eradication in the West of the appalling, unsanitary squalor—the rotting teeth, malnourishment, nauseating skin diseases, smell and filth—that was the human norm until then.

Despite the explosion in population, everyone eats better and more. Per capita calorie intake in the developing world has increased by more than 38% since the Green

revolution—the revolution in world agricultural techniques pioneered by Norman Borlaug 40 years ago—with the number of starving dropping from 35% of world population to 18% today, and predicted to drop to 6% by 2030. Quality of available diet and nutrition have improved markedly.

Poverty has been reduced fantastically in recent decades, with the World Bank concluding in 1998 that 'social indicators have improved in all regions', most notably East Asia. Contrary to entrenched dogma in the media and much of the academy, this has involved a marked *decline* in inequality between the first and third worlds. These decades have seen large increases in per capita incomes (when honestly measured in purchasing power parity terms, they have more than

The rapid growth in world population in the last two centuries actually reflects 'not that people suddenly started breeding like rabbits; it's just that they stopped dying like flies'.



tripled in both developed and third worlds since WWII), an explosion in ownership of consumer goods relieving the former drudgery of ordinary life, a vast reduction in working hours and increase in leisure time, enhanced safety standards and much reduced risk from accidents and natural disasters.

Moreover, there has been a dramatic rise in levels of education, especially in the developing world, where illiteracy has fallen from around 75% in 1900 to less than 20% today, and children are spending much more time at all levels, primary to tertiary.

As Lomborg says, 'Incredible progress' (p. 87).

But what if such improvement is unsustainable—'living on borrowed time'—because of depletion of resources and environmental capital, exacerbated by population growth? Lomborg devotes Part III of the book to this question, the most longstanding environmentalist counterargument. He demonstrates that these superficially plausible concerns are unfounded.

Contrary to Malthus' famous prediction of 1798, world food production has grown much faster than population, due to massive improvements in agricultural productivity, with prices for every foodstuff having dropped precipitously over the last century, and no thresholds to continued improvements apparent.

In global fish stocks and forests there are some problems to address, but they have been greatly exaggerated—since World War II, worldwide forest cover has been essentially stable, and the decrease in tropical forests is much smaller than stated (and much less than the earlier reduction in European and North American forests). Likewise concerning water resources, there is no long-term availability threat, although there is a potential for problems if management of resources is reckless.

Interestingly, where unsustainable exploitation of fish and forests exists, it is largely for reasons to do with lack of private property rights—leading to the tragedy of the commons—and governmental corruption. The key to managing water more rationally lies in both harnessing the price mechanism to prevent the often egregious inefficiency that comes with treating it as a free commodity, and enhancing agricultural trade,

which allows de facto water importation by instead importing the crops which would need the water if grown domestically. Sadly, such economically literate observations are rarely heard within the environmental movement.

As for energy and non-energy resources (principally metals), whose imminent exhaustion was confidently predicted by the environmental movement in the 1970s, even accounting for increases in per capita consumption, the known available resources for almost all have increased dramatically and are sufficient for centuries or probably millennia to come. These are unlikely to be needed, however, as the rapid decrease in cost for renewable energy sources, faster even than the centuries long declines in prices for traditional resources, makes it likely they will begin to contribute seriously to human energy needs within 30-50 years.

In Part IV Lomborg then tackles a second strand of environmental pessimism: that even if material human progress is economically sustainable, this benefit is outweighed by large-scale pollution of the environment. He finds that in fact, after an increase in pollution in the initial phase of industrialisation (through which many third world countries are presently passing in accelerated fashion), economic growth leads to dramatic improvement, with most pollution

measures now significantly better across the developed world than they have been in centuries.

Outdoor air pollution has improved radically in Western cities, with large recent reductions in particulates, lead, sulfur dioxide, and other pollutants. London, for example, now has lower atmospheric pollution than at any time since the 16th century, the days of the killer smogs of the 1940/1950s are over, and similar progress is evident across the developed world. One of the great environmental fears of the 1980s—acid rain—has been proven conclusively to be of negligible environmental impact.

While atmospheric pollution is worsening in some of the third world's megacities, the levels in places like Beijing and Mexico City are still below comparable levels in 1930s London, and there is every reason to believe that with the greater prosperity being generated by industrialisation, third world countries will soon

**After an increase
in pollution in the
initial phase of
industrialisation,
economic growth
leads to dramatic
improvement.**

follow the West in reversing such trends and decoupling growth from pollution. Moreover, in the third world, *indoor* air pollution, which is a far greater health threat, should decline rapidly as increasing wealth and modernisation produce a transition away from traditional dirty fuels like firewood, dung and charcoal.

In developed countries, similarly high and improving trends are evident in water pollution, both oceans and rivers, although sanitation and clean drinking water remain priority concerns in the third world.

In coastal waters especially, quality has improved dramatically, with the environmental impacts of headline-catching events like oil spills being minimal even in the medium term. More real concerns, like oxygen depletion from fertilizer run-off, need to be addressed, but these are more localised and less deadly than usually depicted. Moreover, they should be weighed against fertilizer's central role in the miracle of the Green revolution, the environmental benefit its use brings in alleviating pressure to turn wilderness land over to agricultural production, and the alternatives—like third world sanitation—where we could instead allocate resources.

As for solid waste pollution, Lomborg shows this to be a problem of truly tiny proportions.

The state of the planet—impending apocalypses

In Part V Lomborg finally addresses the currently dominant thread of global environmental doomsaying—the belief that even if decisive environmental harm hasn't yet been inflicted, modern capitalist civilisation is generating hidden environmental damage—synthetic chemical contamination, biodiversity loss and greenhouse gas emissions—which will eventually lead to catastrophe.

The first of these fears originated with Rachel Carson's (in)famous 1962 junk-science bestseller, *Silent Spring*, which predicted a cancer epidemic resulting principally from the use of chemical pesticides. Lomborg notes, however, that, after excluding lung cancer attributable to smoking, age-adjusted cancer death rates across the Western world have been declining for decades. Cancer incidence also shows no increase once confounding factors (including improved detection ability) are taken into account.

Indeed, the best current estimates place the contribution of *all* pollution to cancer incidence at about 3% (the same as alcohol and way below infection,

tobacco and diet at 10%, 30% and 35% respectively). This reflects how much more prevalent natural carcinogens are in our lives than synthetic ones—for example, the average daily intake of coffee alone involves 1,200 times higher relative cancer risk than our current exposure levels to DDT.

Ironically, many cancer experts now point out that the environmental movement's success in demonising pesticides and other chemicals is almost certainly leading to a significant unnecessary *increase* in cancer—first, because it discourages fruit and vegetable consumption, which is essential in reducing cancer risk, and secondly because it has falsely convinced large numbers of people that the real risk of cancer lies in uncontrollable chemical exposures rather than their own lifestyle.²

In short, Lomborg demonstrates that chemical fears regarding cancer have been almost entirely hysteria of a kind now being repeated in scares over synthetic estrogens and their alleged impacts on breast cancer and sperm counts.

As for biodiversity, Lomborg hilariously details how such widely-quoted claims as that of 40,000 species extinctions every year were simply invented out of thin air, and how widespread similar misinformation is in discussion of this topic. He concludes that species loss over the next 50 years is likely to be about 0.7% of all species, not the wild 25-50% in common currency and driving agreements like the 1992 UN biodiversity convention.

Finally, Lomborg examines global warming—currently the pre-eminent environmental fear and, with the Labor Party's pledge to ratify the Kyoto treaty³ requiring massive cuts in energy consumption, an issue of central importance to Australia.

Lomborg's excellent survey of the evidence finds that, contrary to blanket assertions in the media, there is little scientific consensus regarding the nature, extent or seriousness of man-made global warming.

He notes that, contrary to endless sensationalist reports, there has been no increase in frequency or severity of extreme weather events—floods, storms, hurricanes or droughts (although expanded settlement in vulnerable areas has somewhat increased damage bills); that alarm over sea-level rise has been grossly exaggerated (tide gauges in Australia show essentially no increase in rate, belying IPCC [Inter-Governmental Panel on Climate Change] predictions); and that suggestions of a warming-induced resurgence of tropical

infectious diseases have been thoroughly debunked (interestingly, on this score, the eminent epidemiologist Paul Reiter of the US Center for Disease Control, in a devastating interview in *New Scientist* on 23 September 2000, denounced the control exercised in IPCC discussion of disease-issues by activists lacking relevant expertise).

Lomborg also lists a number of things routinely omitted from media analysis of the state of climate science. Among these:

- that the 20th century's 0.6°C warming occurred almost entirely prior to 1940, before major build-up in human greenhouse gases
- that the rapid heating from 1880-1940 represented a natural rebound from the Little Ice Age of 1450-1850
- that most of the net warming since 1940 has occurred in Siberia (where records are highly unreliable), and even then principally only in night-time lows in winter months
- that although all computer models predict more rapid greenhouse heating in the atmosphere than at the surface, highly accurate satellite measurements, independently confirmed by balloon radiosondes, detect essentially no tropospheric warming since their inception in 1979
- that the surface record invoked by global warming alarmists suffers numerous flaws—urban heat island effects, land-use changes, data unreliability outside Europe, Australia and the US, and recently identified major problems in ocean surface measurement techniques—which all tend toward overstating warming
- that recent papers by Richard Lindzen and Judith Jacobsen (both, as far as I am aware, unreported in Australia) have identified on the one hand an 'Iris effect' in cloud behaviour that appears to counteract substantially any rapid increase in temperatures, and on the other hand, a major flaw in the treatment of soot by climate models which seriously undercuts their claims to accuracy
- that the IPCC's own report admits only a low or very low understanding of nine of the 12 factors it says influence global climate, and acknowledges that as 'a coupled, non-linear system . . . prediction of a specific future climate is not possible.'

**Suggestions of
a warming-induced
resurgence of tropical
infectious diseases
have been thoroughly
debunked.**

- that the total absence of recent polar warming completely belies IPCC models which predict that any human-induced warming should actually be most pronounced there
- that none of the computer models so prominent in IPCC projections can even now genuinely reproduce last century's climate fluctuations, let alone justify the regional-scale predictions now glibly bandied about
- and that, of course, predictions of impending climatic catastrophe aren't new. Twenty-five years ago US *Newsweek's* cover story discussed 'dramatically changing weather patterns' portending 'a drastic decline in food production' and 'resulting famines', and already causing 'an increase in extremes of droughts, floods, dry spells, long freezes and monsoons'. The 'grim' future scientists were then 'almost unanimous' in predicting was a return to the Little Ice Age, based on the preceding 35 years' climate trends.

But Lomborg goes beyond the science alone and also undertakes a serious cost-benefit analysis of prospective efforts to curb greenhouse emissions, under a variety of assumptions about possible warming impacts. There is, I think,

considerable room for debate about this analysis which, in contrast with the rest of the book, is at times a little confusing. However the basic conclusions are robust.

These are that, even by the IPCC's own models, full Kyoto compliance would only reduce the predicted global temperature increase by 2100 by about 0.15°C; that this would involve serious economic damage in the short to medium term, which should be avoided by deferring remediation until non-fossil energy sources become a more viable alternative in a few decades time; that for the developed world global warming actually involves little net cost; that resources devoted to curbing global warming in order to reduce *future* net costs to the developing world would be much better spent on direct efforts to improve third world infrastructure, sanitation, and economic growth *now*; and that much of the focus on possible global warming should be redirected towards mitigation and adaptation strategies and away from strategies aimed at limiting economic growth.

It might be added that much of the European passion for Kyoto-style energy reductions stems from the fact that they would impose a large competitive disadvantage on US and Australian competitors,⁴ and that there seems little environmental sense in ratifying a treaty that would simply export much of the West's domestic manufacturing to other less environmentally conscious countries explicitly exempted from such reductions.

The making of myths

How has the Litany of an ever-deteriorating environment managed to become entrenched as fact in the face of often overwhelming contrary evidence? Part of the answer lies in the structural biases in research, organisations and the media which Lomborg identifies in a valuable brief chapter accompanying Part I of the book.

Research is necessarily directed towards identifying potential problems rather than reviewing success stories. There are thus strong professional and funding pressures towards emphasising any possible such problems. The picture is further skewed by publication bias at all levels. Even in specialist journals there is often little interest in publishing papers demonstrating an absence of risk, but great interest in hyping ones which identify even highly speculative dangers.

Lomborg calls this the 'file drawer' problem (p. 36) and it is magnified a hundred fold in the media, where 500 studies showing no risk will go unreported, but if the 501st shows even a vanishingly small potential threat it may be given the full sensationalist treatment. This is exactly what happened earlier this year in the preposterous media coverage of a British study on possible connections between overhead powerlines and cancer.

The tendency towards environmental pessimism is further strengthened by the natural media tendency to report bad news in preference to good, to sensationalise, and to play to irrational fears of invisible menaces like pesticides and radiation, while ignoring many prosaic but far more serious dangers.

Also crucial are two other structural problems in the media. The first is the need to write news, especially on television, around compelling photography. This means stories about problems like third world sanitation, or trends in life expectancy and infectious diseases, never get written, replaced by stories which can be accompanied by footage either of noble animals or of green activists pulling telegenic stunts in order to obtain free, and invariably uncritical, air time.

The second is the pervasive problem of so-called template journalism, in which news is both selected and reported according to a limited set of pre-existing narrative storylines. In the case of the environment, this is the stale morality tale of greedy industry exploiting the environment because of inadequate state intervention.⁵ The unshakeable entrenchment of this template is probably the principal reason why so many journalists, while showing healthy scepticism towards industry-funded research, display no corresponding anxiety about publishing outrageous advocacy research by green activists, and no interest—as Lomborg demonstrates time and again—in holding environmentalist claims accountable to standards of scientific and statistical honesty.

These structural biases are, I would add, magnified by the existing problem of left-progressive ideological bias in the media, and by the strong pressure to fall into line with accepted dogma when environmental issues are framed apocalyptically, accompanied by sustained efforts to demonise those who disagree—as has happened in the global warming debate.

Conclusions

Between them, these structural and ideological biases have insulated the Litany from scrutiny for many decades now, and Lomborg's book is important in at last exposing how divorced from reality that Litany is.⁶ In doing so, it also points the way towards a more rational approach to environmental issues that is long overdue. The key to such an approach is a radical *reprioritisation* of goals, away from the mixture of hysterias and symbolic obsessions which Lomborg shows current environmentalism to be preoccupied with, and towards identifying and tackling genuine problems.

In Australia this would mean, for example, showing less blindness to the inconclusive state of science on greenhouse gas emissions and the significant costs of curbing them, in favour of focusing on a serious but unglamorous problem like salinity.

Globally it would involve realising one of Lomborg's chief goals, to see the basic material welfare of the planet's poorest supplant the often-aesthetic motivations of its environmentally-activist richest as a prime determinant in shaping environmental policy—to see, for example, the billions now wasted in the West on eliminating vanishingly small environmental cancer risks spent instead on sanitation facilities or health infrastructure for the world's neediest.

Such a reprioritisation would require readjustment on a number of fronts.

It would involve restoring careful science and honest statistics to environmental decision-making in place of advocacy research. And it would require a new attention to hard-headed risk-analysis of the sort Lomborg discusses in Part VI, where he shows how extraordinarily expensive modern environmental health and safety interventions (measured in dollars per life year saved) have been by comparison with those in mundane sectors like housing and transportation.

It would involve recognising that, as Lomborg puts it, ‘the environment and economic prosperity are not opposing concepts but complementary entities’ (p. 210), with prosperity a precondition for broad environmental concern; and that utilising markets, property rights, trade and price mechanisms along the lines outlined earlier will be essential in rationally managing environmental problems in future.

It would involve restoring serious cost-benefit analysis, as opposed to such evasions as the ‘precautionary principle’, to the business of weighing how we distribute our resources both among competing environmental objectives, and between environmental and other possible expenditures.

It would also require, as a precondition for such rational analysis, a change in the very language with which we describe environmental issues—embracing sober and measured debate, and abandoning the quasi-religious extremism which allows Al Gore to win critical acclaim for describing modern industrial civilisation as a threat analogous to that of Nazi and Communist totalitarianism, and which over the last 30 years has seen environmentalists hysterically predicting impending apocalypse from, in turn, synthetic chemical contamination, resource depletion, a coming ice age, acid rain, the ‘holocaust’ of biodiversity loss and now global warming.

And finally it would require restoring some of the optimism and faith in progress which have been lost in the environmental movement’s headlong rush to pessimism over the last 30 years. Because, as Lomborg points out, ‘being too pessimistic also carries a hefty price tag’ (p. 351). At best it elevates fear and emotion over considered action, and at worst it replaces reason with the sort of extreme irrationalism which led Paul Ehrlich and much of the environmental movement in the 1970s to advocate aborting the Green revolution and abandoning hundreds of millions in the third world

to starvation in response to hysteria about population growth and resource depletion.

Restoring such optimism and confidence in our ability to tackle problems shouldn’t, after all, be so hard. For as Lomborg says in the book’s final sentences:

We are actually leaving the world a better place than when we got it and this is the really fantastic point about the real state of the world: that mankind’s lot has vastly improved in every significant measurable field and is likely to continue to do so . . . Many people are still stuck with the Litany . . . but this image is a mixture of our own prejudices and a lack of analysis.

Thus this is the very message of the book: children born today—in both the industrialized world and developing countries—will live longer and be healthier, they will get more food, a better education, a higher standard of living, more leisure time and far more possibilities [than previous generations]—without the global environment being destroyed.

And that is a beautiful world.

Endnotes

- 1 There are exceptions like AIDS in Sub-saharan Africa and resurgent malaria in parts of the third world, but both are unrelated to environmental issues, except insofar as the latter has been greatly worsened by the de facto banning of the most effective anti-malarial agent, DDT, on the basis of unfounded hysteria among Western environmental elites.
- 2 The move to organic produce may conceivably also enhance cancer risk since the avoidance of pesticides requires using strains with much more potent natural pesticides.
- 3 Ratification would make Australia only the second country (after Romania!) to do so.
- 4 Europe is determined to retain 1990 as the benchmark date for emission levels because it coincides with the beginning of Britain’s large-scale transition to lower-carbon gas, and predates the closure of East Germany’s heavily polluting industry after unification. This gives an artificially high baseline from which they can comfortably call for massive reduction in others’ carbon emissions under the guise of disinterested environmental concern. Efforts to rescue Kyoto using 2000 as the baseline would likely see European support vanish.
- 5 Those who have seen the genuine environmental devastation wrought by state control in the former Eastern bloc might find this storyline hard to swallow.
- 6 Some other books, for example *A Moment on the Earth* by Gregg Easterbrook or *All the Trouble in the World* by the brilliantly funny P.J. O’Rourke, have taken up this task before, but Lomborg’s is undoubtedly the most comprehensive.