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Smart Solutions to Climate Change: Comparing Costs and Benefits

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Sweating over the heating bill

Steven Yearley finds that cost-benefit analysis is of limited use when it comes to saving the planet

Suppose the international community took climate change seriously and committed a quarter of a trillion dollars a year to the problem for the next decade: how would they best spend the money?

Should they spend it on measures to reduce the carbon that gets into the atmosphere or on investments that allow adaptation to changing climates? Alternatively, they could invest in the development of new energy technologies that might help societies to decarbonise, or even opt for the development of engineering techniques to cool the atmosphere.

This book sets out to identify the best way of spending such a budget. As the book's subtitle makes clear, it does this through the techniques of cost-benefit analysis. Eight principal chapters review the likely costs and returns from different forms of intervention, and each chapter is accompanied by two shorter commentaries that review the claims advanced; these typically focus on methodological, factual and policy matters.

A final lengthy chapter consists of a ranking - undertaken by a panel of five US-based economists including three Nobel laureates - of the policy options.

This is not the first time that Lomborg has been involved in such an exercise. In 2004 he organised a similar operation to work out what the globe's most serious problems were and how those problems could be addressed in a cost-efficient way. His point then was that some relatively neglected problems (such as HIV/Aids in developing countries) could be addressed relatively cheaply, with palpable benefit to many millions of people. If you were going to spend money on addressing global problems, you would get more "return" on your outlay by targeting such neglected topics than by throwing cash at higher-profile problems. In that exercise, climate change fared poorly in relation to anticipated benefits and costs.

Now that the Kyoto process has run its course, and with no global clarity about worldwide policies on climate change, Lomborg has opted to identify economically rational approaches to the issue.

Everyone agrees that resolving climate change will be expensive, since so much of our existing everyday infrastructure will need to change. If the problem could be overcome cheaply, one imagines it would be well on the way to resolution by now. And Lomborg is surely right that there is a danger that, in the face of a complicated and intractable problem, money will be wasted on "solutions" that solve little. The utilitarian logic of cost-benefit analysis is now widely accepted in public discourse, even by environmentalists, and the objectives of this exercise are hard to fault. But whether cost-benefit analysis is as much of a solution as he thinks, and whether solutions favoured by these economists will carry much weight, is harder to say.

As is well known, cost-benefit analyses face typical difficulties. For example, different kinds of values have to be translated into monetary values before they can be handled within the framework. In the chapter on reducing emissions, for example, the cost of lost lives is calculated at 200 per capita incomes and the costs of emigration and immigration estimated using similar techniques.

It is apparent that the outcome of cost-benefit analyses is frequently tied to these pricing conventions, which are -

inevitably - pretty arbitrary. But in this case there are other assumptions that have a big impact on the final scores: about the pace of technological innovation, the rate of economic growth and the nature of scientific uncertainty. For example, there is scientific uncertainty about the rate of melting of the Greenland ice sheet; it could melt slowly and steadily or it may begin to slide catastrophically. The cost of adaptation is different under these two contrasting scenarios.

In the end, the conclusions are a little predictable. The judges don't like taxes and have high hopes for technological interventions. It might have been more interesting if the judges had not all been mainstream economists. Overall, Lomborg's project is not a bad thing to do at all, but there is a danger in assuming that we can choose "rationally" between options that are so simplified they are very unlikely to correspond to future realities.

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Reviewer :

Steven Yearley is professor of the sociology of scientific knowledge, University of Edinburgh, and director of the ESRC Genomics Policy and Research Forum.