



# O S B I H A T

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## COMMENTARY

### Scientists' Report Doesn't Support the Kyoto Treaty



*By Richard S. Lindzen. Mr. Lindzen, a professor of meteorology at MIT, was a member of the National Academy of Sciences panel on climate change.*

Last week the National Academy of Sciences released a report on climate change, prepared in response to a request from the White House, that was depicted in the press as an implicit endorsement of the Kyoto Protocol. CNN's Michelle Mitchell was typical of the coverage when she declared that the report represented "a unanimous decision that global warming is real, is getting worse, and is due to man. There is no wiggle room."

As one of 11 scientists who prepared the report, I can state that this is simply untrue. For starters, the NAS never asks that all participants agree to all elements of a report, but rather that the report represent the span of views. This the full report did, making clear that there is no consensus, unanimous or otherwise, about long-term climate trends and what causes them.

As usual, far too much public attention was paid to the hastily prepared summary rather than to the body of the report. The summary began with a zinger -- that greenhouse gases are accumulating in Earth's atmosphere as a result of human activities, causing surface air temperatures and subsurface ocean temperatures to rise, etc., before following with the necessary qualifications. For example, the full text noted that 20 years was too short a period for estimating long-term trends, but the summary forgot to mention this.

Our primary conclusion was that despite some knowledge and agreement, the science is by no means settled. We are quite confident (1) that global mean temperature is about 0.5 degrees Celsius higher than it was a century ago; (2) that atmospheric levels of carbon dioxide have risen over the past two centuries; and (3) that carbon dioxide is a

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greenhouse gas whose increase is likely to warm the earth (one of many, the most important being water vapor and clouds).

But -- and I cannot stress this enough -- we are not in a position to confidently attribute past climate change to carbon dioxide or to forecast what the climate will be in the future. That is to say, contrary to media impressions, agreement with the three basic statements tells us almost nothing relevant to policy discussions.

One reason for this uncertainty is that, as the report states, the climate is always changing; change is the norm. Two centuries ago, much of the Northern Hemisphere was emerging from a little ice age. A millennium ago, during the Middle Ages, the same region was in a warm period. Thirty years ago, we were concerned with global cooling.

Distinguishing the small recent changes in global mean temperature from the natural variability, which is unknown, is not a trivial task. All attempts so far make the assumption that existing computer climate models simulate natural variability, but I doubt that anyone really believes this assumption.

We simply do not know what relation, if any, exists between global climate changes and water vapor, clouds, storms, hurricanes, and other factors, including regional climate changes, which are generally much larger than global changes and not correlated with them. Nor do we know how to predict changes in greenhouse gases. This is because we cannot forecast economic and technological change over the next century, and also because there are many man-made substances whose properties and levels are not well known, but which could be comparable in importance to carbon dioxide.

What we do know is that a doubling of carbon dioxide by itself would produce only a modest temperature increase of one degree Celsius. Larger projected increases depend on "amplification" of the carbon dioxide by more important, but poorly modeled, greenhouse gases, clouds and water vapor.

The press has frequently tied the existence of climate change to a need for Kyoto. The NAS panel did not address this question. My own view, consistent with the panel's work, is that the Kyoto Protocol would not result in a substantial reduction in global warming. Given the difficulties in significantly limiting levels of atmospheric carbon dioxide, a more effective policy might well focus on other greenhouse substances whose potential for reducing global warming in a short time may be greater.

The panel was finally asked to evaluate the work of the United Nations' Intergovernmental Panel on Climate Change, focusing on the Summary for Policymakers, the only part ever read or quoted. The Summary for Policymakers, which is seen as endorsing Kyoto, is commonly presented as the consensus of thousands of the world's foremost climate scientists. Within the confines of professional courtesy, the NAS panel essentially concluded that the IPCC's Summary for Policymakers does not provide suitable guidance for the U.S.

government.

The full IPCC report is an admirable description of research activities in climate science, but it is not specifically directed at policy. The Summary for Policymakers is, but it is also a very different document. It represents a consensus of government representatives (many of whom are also their nations' Kyoto representatives), rather than of scientists. The resulting document has a strong tendency to disguise uncertainty, and conjures up some scary scenarios for which there is no evidence.

Science, in the public arena, is commonly used as a source of authority with which to bludgeon political opponents and propagandize uninformed citizens. This is what has been done with both the reports of the IPCC and the NAS. It is a reprehensible practice that corrodes our ability to make rational decisions. A fairer view of the science will show that there is still a vast amount of uncertainty -- far more than advocates of Kyoto would like to acknowledge -- and that the NAS report has hardly ended the debate. Nor was it meant to.

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