

To Skeptics on Global Warming . . .

By Al Gore Jr.

When environmental and financial experts from around the world gathered in Washington this week for a White House-sponsored conference on global warming, they expected a serious discussion. Instead, they were surprised and angered to hear President Bush wholeheartedly endorse delay and inaction.

Global climate change is real. It is the single most serious manifestation of a larger problem: the collision course between industrial civilization and the ecological system that supports life as we know it.

The purpose of Earth Day is to alert people around the world to that impending collision. And yet the Bush Administration, according to a leaked memo, is advising its policymakers that "a better approach is to raise the many uncertainties," and argue with other skeptics that nothing should be done until unresolved questions are definitively answered.

What are the skeptics' questions? Here are several of the most prominent. None of them stands up under scrutiny.

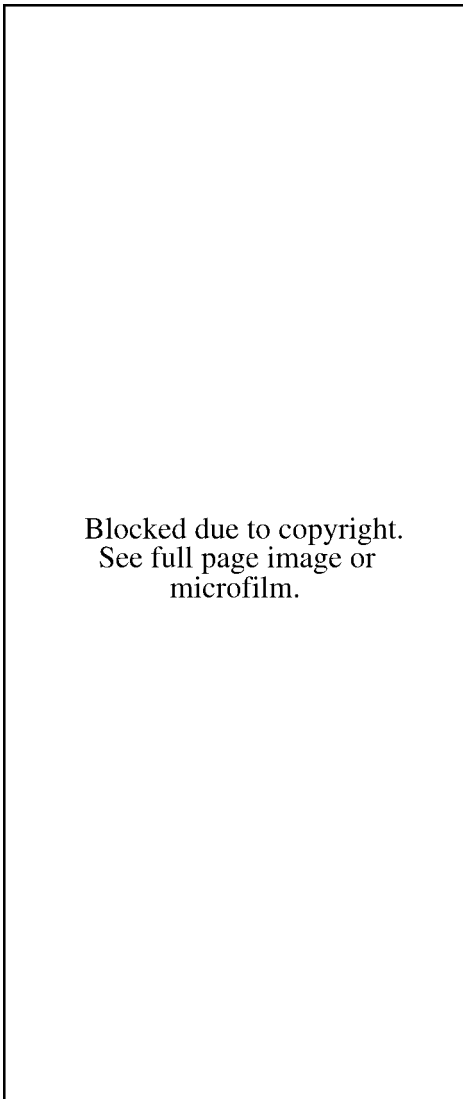
Q.: Aren't the dire predictions about global warming based on unreliable computer models? How do we know that there is any correlation between increased levels of carbon dioxide in the atmosphere and changes in temperature?

A.: The most compelling evidence comes from careful studies of tiny air bubbles in Antarctic ice. These show what has actually happened to the Earth's climate during the last 160,000 years. As illustrated by the accompanying graph, carbon dioxide and temperature have gone up and down in lockstep for as far back as scientists can measure.

Through the last two ice ages and the period of great warming in between, levels of carbon dioxide have fluctuated between 200 and 300 parts per million. Even the skeptics agree that concentrations of carbon dioxide will be pushed to levels of 600 parts per million within the next 35 to 45 years. It is irresponsible to assume that after moving in tandem with carbon dioxide for 160,000 years, temperatures will not be affected by those dramatic increases.

Q.: Do we know enough to act? Shouldn't we study the problem until

Al Gore Jr., a Democrat, is a Senator from Tennessee.



we eliminate the uncertainties?

A.: That was the Administration's excuse last year, when it asked a distinguished United Nations-sponsored group of scientists to answer that question. A draft of the scientists' long-awaited report, leaked to the press this week, concludes that we must act now. The scientists say there's still a chance that the problem won't be as bad as they fear, but there's an equal chance that it will be much worse than predicted.

Q.: Come on, isn't this really a little far-fetched? After all, the Earth is a big place and probably has some kind of natural "thermostat" to maintain the present climate. Don't some scientists say that clouds or the oceans or sunspots will offset any effect caused by human activity?

A.: While the Earth is indeed vast in size, the atmosphere surrounding it is less than one one-thousandth the

thickness of the Earth's diameter, a thin blue line around the crust of the Earth. Unprecedented population growth and new technologies for burning fuels, clearing forests and manufacturing chemicals have given humankind the ability to alter the composition of the atmosphere.

Everywhere on Earth, for example, each lungful of air now contains 600 percent more chlorine atoms than it did 40 years ago — or 3 billion years ago, for that matter. That chlorine is responsible for burning a hole in the stratospheric ozone layer. Similar increases in methane, nitrous oxide and other polluting gases add to the seriousness of global warming.

Q.: But how can we trust scientists on this issue when some of them say global climate change is real and some of them say it's not?

A.: Five hundred years ago, most scientists said the world was flat. Most people believed them because the Earth did indeed look flat. The new "model" of a round Earth was based on mathematical calculations that they could neither touch nor understand. Similarly, Galileo was punished for his then-novel view that the Earth orbited the sun, instead of the other way around.

In the last 20 years, eminent scientists continued to ridicule the theory of continental drift. The theory of global climate change used to be ridiculed, too. But in the last few years, the overwhelming majority of scientists who have examined the evidence have agreed that the problem is real.

Q.: Didn't NASA just report that new measurements of the Earth's temperature in the last 10 years showed no evidence of warming?

A.: That was the impression some people got. What NASA actually reported was that "nothing could be said" about a warming trend one way or another "due to the relatively short satellite data record." Temperatures naturally fluctuate so much from year to year that a single decade is not a long enough yardstick for a long-term trend. The decade as a whole, according to several other studies, was the hottest since temperatures have been recorded. The six hottest years on record occurred in the 1980's.

Q.: O.K., suppose temperatures do rise by a few degrees. So what?

A.: Even small changes in the average global temperature can have dramatic consequences. The last time there was a change as big as the one some now predict, temperatures dropped several degrees and what is now New York City was covered by ice one kilometer thick.

But this isn't about temperatures

alone. It's about drastically changing climatic patterns that affect the distribution of rainfall, the intensity of storms and droughts and the directions of prevailing winds and ocean currents, which in turn dramatically affect our weather and climate. Some scientists say the first effects will be erratic weather patterns with extremes of heat and cold.

Q.: Isn't it easier to adapt to these changes than to prevent them?

A.: The changes could occur so swiftly that effective adaptation might become virtually impossible. The longer we wait, the more unpleasant our choices become.

We are in fact conducting a massive, unprecedented — some say unethical — experiment with consequences for all future generations. As

. . . You're wrong on facts and reasoning.

you make your choice, bear in mind that you're choosing not only for your own generation but for your grandchildren as well. And remember too that our abuse of the environment could lead to the extinction of more than half of all species within the lifetimes of our children.

Q.: Isn't the cost of preventing this problem too high?

A.: Many of the solutions, such as eliminating subsidies for clear-cutting forests, actually save money. In any event, the costs of inaction are much higher, even if the skeptics refuse to measure them.

Q.: The changes you say are needed are too sweeping to be politically possible.

A.: What if I had asked you six months ago to assess the possibility that people in every country in Eastern Europe would abandon Communism, sing "We Shall Overcome" and embrace democracy within 90 days? Would you have called that "unlikely?" We all would have. But it happened because people changed their way of thinking about Communism.

People are changing their thinking about the importance of protecting the global environment. We too are showing our willingness to act. The obstacles may seem immovable, but so did the Berlin wall. With bold leadership and a new political "ecolibrum," we too shall overcome. □