Crying Wolf About Kyoto

There is also a follow-up letter to this op ed.

With their protestations of dire economic catastrophe as a result of the Kyoto protocol to reduce greenhouse-gas emissions, US manufacturers are crying wolf for the second time. The first time was a decade ago in response to the Montreal Protocol, which required a 50 percent cut in 1998 in emissions of chlorofluorocarbons (CFCs), which deplete the earth's protective ozone layer.

The Montreal Protocol set off many cries of alarm, with some influential exceptions that were central to the eventual outcome, such as the large CFC manufacturers. We may have to live without computers, some said, for CFCs are needed to clean electronic circuit boards. There may not be refrigerators, since CFCs are used as refrigerants. The auto industry warned of terrible economic losses, because CFCs were used in car air conditioners.

What actually happened? Faced with the certainty of drastic reductions in CFC availability, producing industries such as DuPont and ICI reinstituted programs to create and produce alternative chemicals. (They had severely cut back such efforts in late 1980, surmising, correctly, that the newly elected Reagan administration would not go ahead with the Carter administration's plans for restrictions on CFCs beyond the aerosol can ban of the 1970s.) User industries quickly stopped complaining and got down to the serious business of developing ways of doing the same work without CFCs. many industries, notably electronic circuit board manufactures, actually saved money in the process of getting rid of CFCs.

The key to successful reduction of emissions of ozone-depleting compounds (some, other than CFCs, still remain in production) was a firm commitment by industrialized countries to ambitious but realistic goals. The most far-sighted was adopted by Sweden in 1988: complete elimination of CFCs by January 1995. The Swedes actually achieved the phase-out in early 1994.

The Kyoto Protocol is a very modest and achievable beginning to the transformation of the world's energy production and utilization system that must take place over the next five or six decades if we are to stop our dangerous experiment with the earth's climate. While some fear that computer models may overestimate problems and cause unnecessary economic harm, much of the problem lies in what we do not know how to model. The worst effects may not be in the more frequent sever weather events and rise in ocean levels that computer models predict.

Higher temperatures could melt enough Arctic and Antarctic ice to unlock vast stores of methane gas trapped in the permafrost and subsurface sediments. methane, which is the main constituent of natural gas and a relatively clean fuel, is an atmospheric pollutant and a far more powerful greenhouse gas than carbon dioxide. Melting ice in the polar regions could set up a vicious circle: higher temperatures lead to greater methane emissions to further warming to more methane emissions — throwing the world's climate and the chemistry of the atmosphere completely out of kilter.

We do not know how to calculate the probability of such phenomena. But we know they are possible. A failure to take preventive action would be unforgivable folly — the climatic equivalent of a medical system failing to test its blood supply for HIV, though the means are available.

In this context it is worthwhile to remember that no computer models predicted ozone depletion as severe as that which actually occurred. In fact NASA's computers were programmed to reject measurements of ozone as low as those found in the ozone hole as erroneous– until the British Antarctic Survey made some surprising measurements in 1982.

The Clinton administration can take some immediate steps to show the nay-sayers that a 7 percent cut in greenhouse-gas emissions below 1990 level is very achievable. Here are some things it could do:

- Initiate a procurement project of several billions dollars a year. By purchasing wind turbines, fuel cells, highly efficient cars and solar cells by open bid each year, the US government would be encouraging what this country's economy does best: innovate in response to market demand. This policy would also reduce federal energy expenditures and greenhouse-gas emissions.
- Ask the National academy of Sciences to establish a standing committee on energy, similar to the one on international security. A crucial part of the mandate of the committee should be to evaluate the efficiency of energy production, transformation and use in the US and world economies according to the second law of thermodynamics, which enables a comparison of how much work a fuel can be made to do relative to what is actually extracted from it. The efficiencies of many common technologies are shockingly low. For instance, most energy use for heating and lighting is only a few percent efficient. Over the long term the United States could reduce fuel use by many times and still enjoy the enormous benefits of the services that energy use provides.
- Help state and local governments reduce methane emissions from landfills by recovering landfill gas and using it as a fuel for electricity generation. The technology is economical today but is languishing for want of attention, awareness and a modest amount of crucial infrastructural support to small businesses in this field. Methane is the second most important greenhouse gas, next to carbon dioxide.
- Have the departments of agriculture and energy collaborate on creating a substantial program of converting feedlot wastes to usable methane gas — thereby reducing not only greenhouse-gas emissions but also water pollution.
- Expand programs such as the green Lights program of the Environmental Protection Agency that has been helping private business make buildings more efficient.

Having made a historic and bold commitment at Kyoto, in the face of powerful opposition, the Clinton administration must follow through by beginning the process of creating the regulations that will be needed to translate that commitment into reality. Great determination is needed to prevent large manufacturing and fossil fuel industries from derailing a treaty that is a first modest step toward stopping the great gamble with the earth's environment and our children's future.

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