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COOL THOUGHTS ON GLOBAL WARMING

Two important changes have occurred in the global climate debate. The first is that greater emphasis is being given to the scientific uncertainties in relating global climate change to future emissions of so-called greenhouse gases, primarily chlorofluorocarbons, carbon dioxide, and methane. The second is that new studies are showing the economic costs of adapting to climate change to be smaller than initially expected.

Both changes suggest that while the United States should be prepared to move aggressively as new information becomes available, we should not rush to adopt costly new initiatives such as carbon emission quotas or taxes.

Any analysis of global warming is hampered by questions at every step. To begin with, no one is able to reliably predict future worldwide emissions of greenhouse gases, and there are significant uncertainties about the quantity of C02 emanating from the biosphere. Even if such predictions existed, deducing the resulting atmospheric concentrations of these gases is not an easy matter, and questions remain about the exact climatic effect of any atmospheric changes. The 1991 report of the Intergovernmental Panel on Climate Change reflects greater uncertainty about the panel's earlier (and widely cited) prediction of 0.3 degrees C temperature rise per decade in a "business as usual" scenario.

Aside from the difficulty of forecasting global climatic changes is the equally important question of the consequences of such alterations, both on human society and on natural ecosystems. The time scale of climate change is critical: adaptation is less difficult if changes occur over centuries than if they occur over decades.

It will be decades before we have a thorough scientific understanding of the effect of greenhouse-gas emissions on global climate. But public policy decisions will not wait that long. At least one segment of the public-the environmental groups in Europe and the United States-believes inaction could prove catastrophic to future generations.

The heart of the global warming policy debate is that different people have different attitudes about how much resources we should be willing to invest now to lessen the possibility of future catastrophe. Our ultimate concern is the ecological, social, and economic effects of climate change. Recently, William Nordhaus of Yale and other economists have come to some surprising conclusions. They estimate that the economic impact of climate change will be relatively small and the costs of some mitigating actions-dikes, for example-seem manageable.

Nordhaus estimates, for instance, that potential environmental costs of global warming might justify cutting carbon-dioxide emissions by 12 percent, a goal that he says could be achieved by a manageable tax of $5 per ton of carbon-equivalent emitted. Conventional wisdom holds that environmental costs might justify a 50 percent reduction in emissions, which would probably require a tax of $100 per ton-significantly hampering economic growth. Nations that did not adopt the tax would enjoy significant economic advantage.

The best policies, I believe, concentrate on actions-such as those encouraging energy efficiency-that cost little and that have other benefits besides helping prevent global warming. Higher gasoline taxes as well as a modest tax on coal, for example, would encourage energy efficiency and yield immediate economic and national-security benefits. I also urge greater use of nuclear power by the United States and other developed nations that can afford the cost and have the technical expertise to deal with the safety, waste disposal, and non-proliferation problems. These policies have a favorable effect on global warming while contributing to a reasonable national energy policy.

This June in Brazil, at the U.N. Conference on Environment and Development, India, China, Brazil, and others will call upon the developed nations to adopt C02 emission targets. These targets will then be used as justification for asking the developed nations to finance new thermal power plants and modernize inefficient older units. I caution against use of emission targets as justification for such costly initiatives, however, because they would divert funds from projects that contribute in a more cost-effective way to a country's overall energy development. This latter approach will of course include projects that stress energy efficiency and t indirectly reduce C02 emissions.

In the long term, domestic and international policies must adapt to new scientific information. Fortunately, such rationality is not unprecedented; in the case of chlorofluorocarbons, the United States demonstrated an ability to act decisively once the scientific evidence was in. Policymakers should do as well as they respond to the vexing challenge posed by possible global warming.

PHOTO: John M. Deutch (L. Barry Hetherington)

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