

FROM THE EDITOR

As we go to press, a major journalistic and scientific topic is the Kyoto, Japan conference on international agreements to control greenhouse gas emissions. The media blitz includes feature stories, articles and editorials (including letters to editors) in newspapers, newsmagazines and science journals. For many weeks the public has had the opportunity to be educated about at least two aspects of the greenhouse problem: the scientific and the economic. The only aspect of the greenhouse phenomenon that elicits no disagreement is the increase in atmospheric carbon dioxide over the past four decades. Most people seem to agree that this increase is chiefly due to industrial activity. What is debated, particularly in widely circulated newspapers such as the *Wall Street Journal*, is the role of industrial emissions in the carbon dioxide increase (this is relatively uncontroversial), and whether carbon dioxide is responsible for warming, or even if warming is taking place. Some of the skeptics about global warming are well-known scientists, such as S. Fred Singer, who has just published the book *Hot Air, Cold Science: Global Warming's Unfinished Debate*.

Few doubts about the cause-and-effect relation exist among those who run the general circulation models, and who study the major climate changes and carbon dioxide inferences recorded in the geologic record. Skeptics point out the uncertainties in modeling the effects of clouds, the complexities of aerosol-photon interactions, and external factors such as solar activity that affect global temperature. It is hard to tell sometimes if skeptics have agendas other than scientific objectivity. Here is where socioeconomics becomes important. Atmospheric carbon dioxide is closely linked with industrial activity, which is closely linked with the economic health of countries. In particular, countries on a steep economic rise are understandably concerned about potential limits of their industrial growth. It is rare in history that the scientific method, with its inherent uncertainties and probabilistic conclusions, has been displayed to public observation and governmental decision. A decision would, of course, be easy if it were guaranteed not to affect nations' economies, and such assurance itself carries a level of uncertainty. If only life and science were not so uncertain!

Which brings us to cosmogenic and thermo-nucleogenic isotopes . . . in particular tritium and radiocarbon. Our favorite isotopes have played important roles in calibrating models of carbon sequestration in soils and oceans. Numerous articles published in this journal have not only provided baseline data for radiocarbon and tritium as global radioactive tracer experiments, but also demonstrated the direct application of those data to natural attenuation of greenhouse carbon dioxide. The original collectors of the data may not have anticipated its now recognized value to society. A development or product often turns out to have applications or uses not originally intended or imagined. In this case, the application has global reach. It is our intent for this journal to continue to publish articles that present baseline data as well as ones that interpret data. Stay tuned.

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