

Ozone on Trial

Congress gives skeptics a day in the sun

By RICHARD MONASTERSKY

While testifying before Congress last month, atmospheric scientist Daniel L. Albritton found himself in a bit of a time warp. Wearing his trademark Clark Kent spectacles, the soft-spoken National Oceanic and Atmospheric Administration researcher grappled with representatives who questioned whether human-made chemicals are harming Earth's protective ozone layer—a debate most scientists laid to rest more than 5 years ago.

"I never thought we would be at a hearing like this," Albritton told SCIENCE NEWS.

The House Subcommittee on Energy and Environment held the Sept. 20 hearing to examine the evidence against chlorine- and bromine-containing chemicals accused of destroying ozone. In 1992, President Bush announced that the United States would phase out production of bromine compounds known as halons by the end of 1994 and chlorofluorocarbons (CFCs) by the end of this year, allowing some exceptions for limited export to the developing world. The country committed itself to that course when it signed and ratified an international agreement, the Copenhagen Amendment to the Montreal Protocol.

Republican representatives are now trying to stop the phaseout, citing insufficient scientific evidence and the cost of switching to alternative chemicals. In the process, they are pitting a few vocal skeptics against the vast majority of atmospheric researchers, providing a vivid example of how science and politics are squaring off in the 104th Congress.

"I am here today because I believe that the science underlying the ban on CFCs and the connection between health and ozone depletion is debatable," Tom DeLay (R-Tex.) testified at the hearing. DeLay had previously introduced legislation seeking to cancel the CFC phaseout completely. At the same hearing, John T. Doolittle (R-Calif.) announced a different piece of legislation that would push the CFC ban back until Jan. 1, 2000.

Both DeLay and Doolittle say they have based their conclusions on the work of S. Fred Singer, an atmospheric scientist and president of the Science and Environmental Policy Project in Fairfax, Va. Singer, who devel-

oped the ozone-sensing instrument flown on satellites, has for years questioned the evidence for environmental problems such as ozone depletion and greenhouse warming.

The subcommittee hearing paired Singer and another skeptic, astrophysicist Sallie Baliunas, against Albritton and Robert T. Watson of the White House Office of Science and Technology Policy. Both Albritton and Watson have conducted research related to ozone depletion and have served as cochairpersons of the international scientific panel examining the evidence of ozone depletion.

Last year, the panel published its latest conclusions in the *International Assessment of Ozone Depletion: 1994*. Some 230 scientists contributed to the document, and 147 reviewed it, making it a consensus statement representing the broad international community of atmospheric researchers, says Albritton.

Republican lawmakers, however, have largely ignored the assessment. At the hearing Lynn Rivers (D-Mich.) asked DeLay why he had not considered the assessment when drafting his legislation. "Mr. DeLay. . . you said that one of the problems out there in science today is that people don't want to look at both sides. Often, they have a decision on what they want already. And then you say that you haven't looked at the most important study on this issue, the most broad, the one that has worldwide input. Why did you not consult the assessment on ozone depletion when you put together your proposal and built your position?"

DeLay responded that he had received the 1994 document only recently. "I'll be glad to read it and give you my assessment," he told Rivers.

Subcommittee chairman Dana Rohrabacher (R-Calif.) said he was not swayed by the conventional view of ozone depletion or by the number of scientists who back that view.

"There have been times in history, I think the panel will agree and probably everyone in this room will agree, when a large majority of scientists changed their views on something that they were very adamant about," Rohrabacher said.

Singer charged that the case for ozone depletion has been overstated and argued for pushing back the ban on CFCs until 2000, instead

of the end of this year. "You ladies and gentlemen here today are being misled, bamboozled, and otherwise manipulated by some of the testimony that you have just heard," he said following Watson's presentation. Singer doesn't think that scientists have demonstrated an ozone loss over the midlatitudes or established a link between CFCs and the annual ozone hole over Antarctica.

Later, Rivers questioned Singer about his credentials for commenting on the ozone issue. Although Singer's curriculum vitae lists some 200 peer-reviewed papers, he has not published any peer-reviewed research papers in the last 15 years in any of the top journals dealing with ozone depletion, the Michigan representative noted. Last year, SCIENCE published a technical comment by Singer criticizing an article that had appeared in the journal earlier.

As an outspoken scientific skeptic about ozone depletion, Singer frequently places op-ed pieces or letters in major newspapers. But he testified at the hearing that the mainstream scientific community routinely overlooks his work. "My work has been ignored. My papers have been ignored, and you will not find a reference to anything I have published in here," he said, pointing to the international ozone assessment.

Albritton corrected Singer, noting that the assessment had indeed referenced his comment in SCIENCE.

In fact, several scientists once skeptical about ozone depletion have now joined the ranks of those participating in the international assessment. In 1988, statisticians for some CFC producers, along with scientists from the Soviet Union, questioned evidence of a weakening global ozone layer. But after an extensive review, those scientists agreed with the conclusions of the assessment panel, says Watson. "They are now key players in the international assessment."

In a rare moment of agreement at the hearing, both sides reached a consensus on where studies should focus in the future. Because ozone depletion should allow more ultraviolet B (UVB) radiation to reach the ground, the scientists called for long-term measurements of UVB light at Earth's surface. They also suggested addressing how increased UVB exposure will harm humans, a recommendation seconded by two health scientists who testified at the hearing. □