Mr. Wilbee (Delta): Welcome, Dr. Bates. I appreciate your presentation.

We have been hearing a lot about the effect on agriculture and farming, our freshwater lakes and so on. As a physician, I was wondering if you could just outline to the committee the direct effects on human health of pollution. We recognize that it affects many different areas. You mentioned Dickens and old chimney-sweeps and so on, but what are the modern implications of pollution?

Dr. Bates: I think the answer to this is that we are fairly sure acute lung disease is affected. This probably includes acute bronchitis, it may include acute pneumonia, and it certainly includes a worsening of asthma.

Asthma affects between 5% and 7% of the population. If you take children, again, as a susceptible group because they run about out of doors, then the number of susceptible children is pretty nearly 25% of the population. So we are looking at a very large number of people who are particularly susceptible to things like sulphuric acid aerosol.

In three weeks' time there will be a press conference in Boston when a group of Canadian and American chest physicians are publicizing their major concern about the health effects of sulphuric acid aerosol as we now know it exists. The impact is mainly on children and also on anybody who is active out of doors in the summer. So we are not looking at the over-60s, who are mostly indoors, we are looking at active people in age groups who are out of doors in the summer who get a major dose of these particular pollutants at this point of time.

The reason for understanding this is that any global warming scenario you look at will worsen it. By increasing the ultraviolet light on the earth's surface and by increasing global warming you are going to have this problem simply made much worse. Therefore, the controls on it by nitrous oxide emissions and sulphur dioxide emissions particularly, even on a local basis, become imperative.

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Mr. Fulton: Thank you, Dr. Bates. Looking at global warming and the synergistic effects of sulphurous oxide and nitrous oxide and the hole in the ozone, I take it from your evidence, is extremely important. I think we know now in North America that the losses to agriculture are in terms of billions from ozone now and are likely going to increase rapidly. We know that acid precipitation is causing billions of dollars in loss to our forests per year in Canada and thousands of lakes at a time. As you have well pointed out, the implications for human health are dire and our need for much more stringent national standards, targets and timetables is rapidly increasing.

Could you spend a moment in going back to the synergistic implications of all of this? We continue to hear about it in bits and pieces. As the hole in the ozone gets worse and as global warming increases to the point where we see the reduction in stratospheric ozone and the dramatic increase in near ground ozone, the implications for forestry, for agriculture and for human health become increasingly dire.