Adapting to climate change

Policy developments to combat global climate change by cutting greenhouse gas emissions are well underway. At the same time, many governments are busy fleshing out adaptation programs to deal with global climate change's effect on humans and ecological systems, according to speakers at the Air & Waste Management Association's annual meeting in June.

The concept of adaptation, or taking action to cope with climate-induced effects, was included in the 1992 International Convention on Climate Change and was reiterated in the Kyoto Protocol. And most climate change researchers agree that North American countries have been experiencing extreme weather events, most notably the 1998 El Niño flooding in California and the 1997 flooding of Fargo, N.D. "These kind of climate changes can hurt people, and there is a tendency to jump over that and to debate the policy tools to reduce greenhouse gas emissions," said Stewart Cohen, a biologist with Environment Canada's Environmental Adaptation Research Group (EARG).

The interagency U.S. Office of Global Change Research Program last year launched a series of 20 workshops across the country to brainstorm specific climate change effects and actions that might be taken to adjust to changes, said Michael MacCracken, executive director of the program. Workshop participants come from an array of groups. With four workshops left, MacCracken said he believes the program has turned people's attention to climate change. "We are trying to start a dialogue. Everybody needs to think about this individually, as a community, and as a country," said MacCracken. The program is also collecting information for a nationwide assessment of specific regional effects from climate change.

Research into adaption science and adaption measures has been underway in Canada for the last four years, added Roger Street, director of Environment Canada's EARG. Canada's assessment of regional impacts was finished last year. Several developing countries, including Caribbean and Central American countries, which expect considerable effects from climate change, are developing adaptation policies, Street said.

Even with reductions under the Kyoto Protocol, greenhouse gas emissions will rise in the short term. The need for a climate change policy including mitigation and adaptation programs is clear, many involved in climate change policy said.

But there still are some who don't want to talk about adaptation, particularly those concerned that the developed countries won't cut emissions. "The feeling has been if you can adapt, then why mitigate," said Street. Others involved in climate change research, although they are a minority, argue that society is already adapting, and future climate changes will not tax our ability to adapt. "We are de facto adapting to normal climate variability," said Eugene Stakhiv, with the U.S. Army Corps of Engineer's Institute for Water Resources, who worked on three IPCC reports. "I personally believe that technology will kick in."

In May the International Panel on Climate Change sponsored a workshop in Costa Rica dedicated to adaptation science and management. A series of papers were presented on adaptation science that covered such topics as analyzing adaptation case studies, adaptation technologies, the costs and benefits of adaptation measures, and adaptation management, including analyses of possible adaptation programs for natural resources, food systems, and human settlements.

A major flaw in adaptation policy, according to several papers presented at the IPCC workshop, is the need to predict future climate-induced effects. "If we are really going to understand impacts and try to decide what to do, we have to have better modeling," said Cohen.

At the same time, adaptation steps taken in one country could cause a problem in a different country. And steps taken to adapt could require funds that might instead be spent on mitigating greenhouse gas emissions, added Joel Scheraga, director of EPA's Global Change Research Program. —CATHERINE M. COONEY

ENDOCRINE DISRUPTERS

Consumer Safety Commission assessing PVC toy risk

The U.S. Consumer Product Safety Commission is conducting an assessment of the risk to children from phthalates in soft plastic toys. The assessment comes in the wake of the European Union's consideration of a possible ban earlier this summer.

Phthalates, a family of chemicals comprising phthalic esters or benzenedicarboxylic acid esters, are suspected of having carcinogenic and hormone-disrupting effects. They are added to polyvinyl chloride to make it soft and elastic. For two years the environmental group Greenpeace has been campaigning to ban their use in toys on the grounds that when children suck or chew the toys, they are exposed to hazardous chemicals.

The U.S. Commission has launched laboratory exposure studies, using simulated saliva, together with a review of toxicity studies for the assessment, due later this summer, said Ken Giles, Commission spokesman.

A decision to ban the plastics by the European Union appears to be on hold. EU scientific advisers, who had previously supported a ban, revised their opinion on June 16 when they announced that phthalates in toys pose no "serious and immediate" risk to young children. Their previous stance was based on a "worst-case" approach, the advisors said. In the same month, the European Commissioners investigated the possibility of a limited ban based on testing individual toys. The EU testing program would require a standard leaching test, which does not currently exist. Three other European governments have drafted legislation to ban the use of some phthalates. —REBECCA RENNER