represents perhaps the most significant federal effort yet to encourage the states to undertake land use regulation. For a time, it appeared that the Coastal Zone Management Act would merely complement a national land use act, with both providing grants-in-aid to states willing to establish programs for regulating critical land areas and critical uses.

But the land use legislation became hotly controversial last year when groups such as the U.S. Chamber of Commerce raised the specter of federal bureaucrats flouting state and local prerogatives and ignoring private property rights. As a consequence, the legislation was narrowly rejected by the House of Representatives, and its prospects for passage during this Congress are at best uncertain. The coastal zone program itself could easily become controversial should it be widely perceived as a federal attempt to preempt state and local authority in the control of land use.

The stated intent of the Coastal Zone Management Act is simply to have each of the 34 coastal and Great Lakes states and territories establish enforceable management plans and priorities for coastal waters and for adjacent shorelands having a "direct and significant impact" on those waters. Coastal areas of "particular concern" are to be identified, together with the uses to be permitted within them.

Further, the act specifically requires that state programs provide for "adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature." It is in their interpretation of this latter requirement that the OCZM and the energy agencies are in such strong disagreement.

In administering the coastal zone program, the OCZM has a carrot but no stick. States can participate in the program or not, as they choose. Participating states can receive three annual program development grants covering up to two-thirds of their costs. Last year funds became available for the first time, and grants ranging in size from $78,000 (for New Hampshire)

# Federal Task Force Supplies Fuel for Fluorocarbon Debate

It is becoming increasingly likely that, barring unexpected new findings, fluorocarbons—the compounds used most commonly as aerosol propellants and refrigerants—will find themselves the subject of government regulation in the not-too-distant future.

The probability has been enhanced by the latest survey of available evidence, "Fluorocarbons and the Environment," performed by the task force on inadvertent modification of the atmosphere (IMOS) of the Council on Environmental Quality (CEQ) and the Federal Council on Science and Technology (FCST).

Fluorocarbons have been implicated in the destruction of stratospheric ozone, which protects the earth from the sun's ultraviolet radiation. "Thus far," says the report, "the validity of the theory [of ozone reduction] and the predicted amounts of ozone reduction have not been seriously challenged. More research is required . . . but there seems to be legitimate cause for serious concern."

The potential hazards to the stratosphere created by fluorocarbons were first noted a year ago in a paper published in *Nature* by F. S. Rowland and Mario J. Molina of the University of California at Irvine. Fluorocarbons are inert and therefore pose no threat at substratospheric levels. However, ultraviolet light eventually separates them into fluorine, chlorine, and carbon. Chlorine breaks down the unstable ozone molecules.

According to the most recent report, the findings of various groups doing research on fluorocarbons are basically in agreement. The conclusions are that past releases of fluorocarbons into the atmosphere have reduced the average levels of stratospheric ozone by perhaps 1 percent and that if no more were released the delayed effect of past releases might raise the figure to 3 percent. Each percentage of ozone reduction is calculated to increase the number of cases of nonmelanoma skin cancer in the United States by 2 percent. The yearly average is now 300,000 cases.

At a press conference on the report, FCST head Guyford Stever and CEQ head Russell Peterson emphasized that the world is in no immediate peril in view of the fact that natural daily, seasonal, and long-term ozone levels are subject to fluctuations of up to 25 percent. However, a small reduction in the long-term average could influence not only skin cancer rates, but livestock cancer, eye damage, crop damage, vitamin D synthesis, climate, terrestrial and aquatic ecosystems, environmental chemicals, and insect behavior.

The report therefore recommends that fluorocarbons be banned in aerosols if its findings are confirmed by a study on man-made impacts on the stratosphere recently inaugurated by the National Academy of Sciences, the results of which are expected next year. That panel's main charge, according to its chairman, Herbert Gutowsky of the University of Illinois, is to assist in further refinement of predictions by determing the accuracy of the various assessment and measurement procedures now in use.

Pending evaluation of the rapid accumulation of new data, the IMOS task force recommended that products containing fluorocarbons be labeled so consumers could decide whether they want to contribute to possible ozone depletion. The report strongly urges swift congressional passage of the Toxic Substances Control Act, which would fill in the gaps in the government's regulatory powers. (Versions of this act have been passed twice by both houses of Congress, but have never made it out of House-Senate conference committees.) While several agencies have the authority to restrict private use of products containing the compounds, none is in a position to regulate industrial and commercial use of fluorocarbons or their use in automobile air conditioning.

The report also calls for international cooperation in assessing the hazards of fluorocarbons, to be initiated by the State Department, inasmuch as the United States is responsible for "only" half the world's production of the substance.

The task force believes that the techniques that have been used to measure chlorine and ozone depletion, while in need of refinement, are basically valid. So they believe that only two circumstances would radically alter the picture. One would be the discovery of natural "sinks" in the stratosphere to dispose of chlorine; the other would be the discovery of huge natural deposits of chlorine that would render insignificant the contributions from humankind.

While the projections that are now generally accepted are less alarming than those originally developed by Rowland and Molina, they are unfortunate enough, as Peterson observed, to ensure continued and substantial debate on the question.

—C. H.