

nized. The task force will be directed by the Council on Environmental Quality and the Federal Council for Science and Technology, and will include representatives from the Environmental Protection Agency, the National Science Foundation, the Food and Drug Administration, the Consumer Product Safety Commission (CPSC), the National Aeronautics and Space Administration, the Energy Research and Development Agency, the Interdepartmental Committee for Atmospheric Sciences and the Departments of Commerce, Justice, Agriculture, Defense and Transportation.

Concern mounted quickly after atmospheric chemists last fall proposed a theoretical mechanism for fluorochlorohydrocarbon behavior in the stratosphere (SN: 9/21/74, p. 180; 10/5/74, p. 212). The inert propellants float 9 to 12 miles above the earth's surface unchanged, they theorize, and are there broken down by ultraviolet light. Liberated chlorine atoms in turn may break down ozone (O₃) molecules, which are needed to shield the earth from the damaging wavelengths of ultraviolet light. If the sources of ozone destruction are not removed soon, they postulate, the ozone layer could be depleted by as much as 35 percent within the next 20 years.

Although research has not been completed, several of the participating agencies such as EPA, FDA and CPSC would be involved in regulation if the theories are confirmed. One important task force function will be to untangle the legal question of which agency would handle which aspect of the regulation. The Justice Department has been given this assignment.

The task force will also consider atmospheric, medical, ecological and economic impacts of the problem as well as industry and Government alternatives.

Fears have been voiced by some scientists that the traditional regulatory channels will move too slowly to squelch the problem in time. But, says co-chairman Carroll L. Pegler of the National Science Foundation's Science and Technology Policy Office: "I think it is a good sign that action has started early this time, and the regulatory problems haven't become too complicated before the Government agencies organized themselves. This task force provides a way to quantify the uncertainties and provide decisive action if it becomes necessary." A report will be issued in June, she says.

Thomas Stoel, a lawyer with the consumer law firm that initiated the suit with the CPSC, says the task force may be "an elephant trying to kill a mouse." A large slow-moving body is probably not needed, he says, but at least the regulatory ball is rolling. □

Mineral supplies: Shortages ahead

The United States may not have as much untapped fuel as the Government seems to think, a report by the National Academy of Sciences concludes. In its report, the Committee on Mineral Resources and the Environment says the chances of America achieving energy independence based on new discoveries of oil and gas are slim, and that even if more mineral reserves are found, new technological achievements probably won't meet demand. Production may cost more than the mineral is worth. Even gloomier is the group's statement that "there are no standardized techniques for making long-term demand forecasts," and that "projections of demand for energy to the year 2000 contain conceptual errors and questionable assumptions."

Committee head Brian John Skinner, chairman of the department of geology and geophysics at Yale, says 200 billion barrels of oil will probably remain in the ground indefinitely, since there is no known way of extracting it. "If Project Independence depends on increasing oil production, then it's on shaky ground," he says. The time lag involved in discovering and pumping new oil fields after current supplies are exhausted would make oil production increases almost impossible. Skinner says that although he doesn't think the Interior Department is intentionally deceiving the public, "The U.S. Geological Survey estimates are unrealistically high," in guessing the United States' undiscovered oil and natural gas reserves.

The report confirms the findings of an earlier academy study compiled for President Kennedy under the chairmanship of M. King Hubbert, who ever since has been warning about impending materials shortages (SN: 4/27/74, p. 277).

Minerals already in short supply, including copper, nickel, gold and tin, probably won't be replaced by substitutes, the group says. This means conservation and recycling may be the only alternatives to increasing mineral production. While world supplies of copper are large (at least enough for the next 25 years), conserving what has already been mined while developing new technology is the group's chief suggestion. A recycling efficiency of 90 percent, though rarely attainable, would mean about a tenfold reduction in the rate at which fresh material would need to be mined.

Manganese and copper nodules scraped off the ocean floor may provide new sources of raw materials, but devising equipment to gather them without disrupting marine life de-

serves study, the group says. Another mining innovation, called situ leaching, involves soaking ore deposits in acid, thereby dissolving or leaching out the desired constituents, which are subsequently collected from the run-off stream. But the environmental effects of chemical runoff and the hazards of explosive ore shattering can't be ignored. The group suggests refining current beneficiation systems (separating mineral grains from waste rock).

Financing the Government's proposed needs may be America's biggest crisis, the group says. For example, tripling coal production by 1980, as has been suggested, would imply at least tripling the investment in coal-mining machinery unless there is a dramatic improvement in productivity caused by the development of new techniques. These kinds of innovations would be implemented by private companies, many of which simply can't afford to gamble with current demands. A manpower shortage coupled with new pollution standards and health hazard restrictions involved in mining coal make capital investments risky. □

Largest ecology award

Most environmental projects, it seems, are labors of love. But last week limnologist Ruth Patrick received \$150,000 for her ecological studies of polluted streams. The John and Alice Tyler Ecology Award, \$150,000 tax free, is the largest award ever given to a single scientist, surpassing even the Nobel Prize (\$31,000 to \$72,000).

To win the prize, given only twice so far, requires 10 years of scientific research on a project, then practical application of the results, distributed worldwide. Patrick, 67, helped shape the United States' clean water act. Now current chairman of Philadelphia's Academy of Natural Sciences, she says of the honor, "I still can't believe it." Patrick was selected from among scientists of 15 countries.

The award is administered by California's Pepperdine University. The benefactor, John C. Tyler, co-founder of the Farmers Insurance Co., left a total of \$5 million for the annual award, but died before its inception. His widow, Alice Tyler, says of the fund, "The unfortunate thing, for the moment at least, is that ecological solutions would seem to conflict with business, industry and economy. But of course, this isn't a real conflict. I mean, after all, we all want to live, don't we?" □