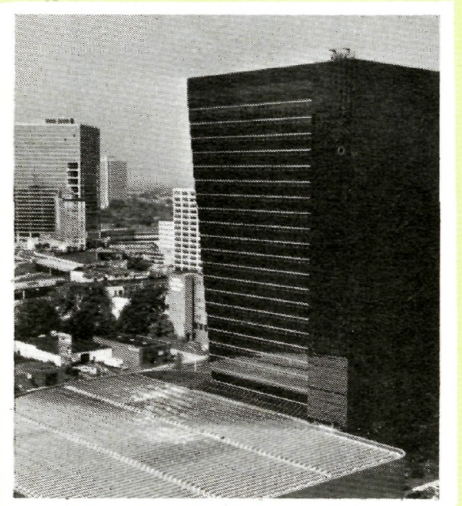
and, perhaps, menace human health, say scientists at the California Institute of Technology. They measured fog pH and chemical composition at three sites in Los Angeles and Bakersfield, Calif., but noted that the same phenomenon could be found elsewhere in the U.S. and abroad. The scientists found pHs of 2.2–4.0, as well as nitrates and sulfates, ammonia, copper, iron, lead, nickel, manganese, and organic compounds. Concentrations of up to 12 000 μeq/L of nitrate and 5000 μeq/L of sulfate were observed.

TECHNOLOGY

The first solid-state electrolyte analyzer to measure SO_2 in flue gas directly within the flue has been introduced by Westinghouse Electric Corporation. The company says that the analyzer can be used in flue gases with temperatures as high as 1400 °F. The sensing cell's output voltage is logarithmic with SO_2 content of flue gas. The device can read levels as low as ppm or as high as percentage quantities for sulfur burner applications. Since the system operates in conjunction with an in-situ oxygen analyzer, SO_2 values are found by subtracting oxygen values from total measurement values.

Methanol as fuel: Will it work as a practical bus diesel substitute? What about emissions? Acurex Corporation (Mountain View, Calif.) will learn the answers to these questions for the California Energy Commission under a 2½-year, nearly $2 million program. Methanol-fueled buses will run from Marin County to San Francisco and back for one year. Careful analyses will be made of fuel consumption, emissions, performance, and durability. It is hoped that methanol, which can be made from coal, can help cut oil import needs and also reduce bus emissions, since there would be no diesel particles and less NO_x if things work as expected.

New and emerging technologies for hazardous waste control were the subject of an effort initiated by EPA (Cincinnati, Ohio) and contracted to Ebon Research Systems (Washington, D.C.). The need for a data base or a newsletter for these technologies was evaluated. Among technologies examined were molten salt combustion, high-energy electron treatment, chemical dehalogenation, and ultraviolet (UV) light with hydrogen or chlorinolysis. While advantages and disadvantages of each must be weighed carefully, these technologies should be considered as alternatives to landfills, according to the study.



Solar collector array

Solar heating and cooling on a large scale will be tested at Georgia Power's corporate headquarters building in downtown Atlanta. The system is expected to furnish 30% of the heating and cooling requirements of the 24-story building. There are 1482 parabolic trough collectors to provide heat to water flowing into a heat exchanger. Heated water gives power to an absorption chiller for cooling purposes. The chiller's excess heat will be used for water and space heating. The system is computer-controlled to provide what the users feel will be the optimum mix of solar and conventional energy sources.

INDUSTRY

To control pollution, the chemical industry is expected to have spent as much as $970 million in 1982. That figure represents 6.31% of the $15.38 billion spent for new plants and equipment. In 1981, pollution control spending was believed to be $800 million, or 6.47% of the $13.6 billion new plant and equipment outlay; 1980 figures were $730 million for pollution control or 5.9% of the $12.6 billion new plant and equipment outlay. These figures were furnished by the Bureau of Economic Analysis of the U.S. Department of Commerce.

Electricity from the biggest U.S. "wind farm" may be sold to Pacific Gas & Electric (PG&E) by 1985. The plan is to install 36 Boeing generators, each of which would be rated at about 3500 kW; expected project cost is $400 million. The project builder and operator would be AeroTurbine Energy Corporation (Denver, Colo.). The planned site is the point where the Sacramento and San Joaquin Rivers enter San Pablo and San Francisco bays. Generation starts with 14-mph winds and is most efficient with winds at or above 27.5 mph. Windmill shutdown occurs at wind speeds of 60 mph or more.

A data base for the prediction of biological activity will be distributed by Comtex Scientific Corporation (New York, N.Y.). The data base uses molecular structural activity relationships to predict, for instance, bioaccumulation, biodegradability, and toxicity, according to principles set forth by Corwin Hansch of Pomona College (*ES&T*, Vol. 15, No. 4, p. 381). Presently, 28 parameters are listed for over 2800 substituents, and partition coefficients are given for more than 22 000 solutes. The data base has already been used for ethical drugs and various pesticides and is planned as a tool for quantitative prediction of bioactivity.

EPA's decision to ban toxaphene use will not be contested by the marketer of the chemical. "Although we disagree with EPA conclusions, we do not intend to challenge the cancellation because of the extreme cost associated with legal proceedings," said BFC Chemicals, Inc. (Wilmington, Del.). BFC asserts that EPA "has made it clear that their hazard evaluation is based on 'worst-case' analysis," and that "many assumptions of an extreme nature, some of which are contrary to known facts, have been used in the risk assessment." The company says that widely publicized residues in Great Lakes fish may not be toxaphene, as the EPA document acknowledges, and that no illness showed up in employees even after 30 years of manufacture, equaling about 1000 man-years of exposure.