

## DOE's Mixed Forecast

The good news in the government's energy survey\* released on 5 May is that Americans have continued to become more efficient users of energy and that oil imports have declined for the fifth year in a row. The bad news is that, unless something is done to prevent it, oil imports are likely to surge upward again in the next 2 years, perhaps growing from the present level of 4.2 million barrels a day to around 7.6 million in 1985.

The major importers in this new upsurge are likely to be electric utilities, according to J. Erich Evered, administrator of the Energy Information Administration (EIA). He told reporters that natural gas prices will be rising at mid-decade, driving power companies with the capacity for fuel switching toward the cheaper alternative of imported residual oil.

Gas prices will rise because the law now in effect (the Natural Gas Policy Act of 1978) calls for about half of U.S. natural gas production to be released from price controls by 1985. When this happens, gas prices are likely to be pegged to comparable crude oil prices. The EIA predicts that at this time many utilities will get out of the gas market, which will bring about a 1-million-barrel-a-day increase in oil imports. While the EIA would not speculate on this point, it seems that the Reagan Administration's plan to decontrol gas prices immediately would bring about a shift even sooner. Thus, an immediate decontrol of gas might halt the downward drift in the price of crude oil.

Evered saw a difference between the kind of conservation that occurred in 1980 and 1981, and the kind seen last year. In the earlier case, efficiency was driven by rapid price increases. In 1982, Evered said, the record reflected primarily a slowdown in business because of the recession and an unusually mild winter. The recession had a striking impact on electricity generation. It fell by 2.3 percent in 1982, the first decline since World War II. This was a sharp reversal of the pattern in 1972 to 1982, when electricity generation rose by 28 percent despite growing fuel costs.

Among other significant findings, the EIA reports the following:

- Per capita energy consumption in the United States last year fell to the lowest level since 1967, to 306 million Btu's. The highest level—353 million Btu's—was reached in 1973, just before the oil embargo.

- World petroleum consumption fell in 1982 for the first time since 1975, by 3.2 percent. OPEC production was at its lowest level since 1968.

- Saudi Arabia, the chief source of U.S. oil imports since 1976, took second rank in 1982 to Mexico, a non-OPEC nation.

- Crude oil production in the lower 48 states has been declining since 1972. But in 1982, the pattern reversed and oil production rose by half a million barrels a day.

- The use of energy continues to "decouple" from economic growth patterns. The EIA reports that the amount of energy needed to produce a given dollar of output in the GNP has declined sharply since the 1970's. It was once thought that the ratio of energy to GNP was fixed. But the EIA now predicts that the ratio will drop further, declining at least 22 percent between 1970 and 1990. This is a conservative figure. Data Resources Inc. predicts that it will drop 30 percent in the same period.

- In a series of forecasts, the EIA predicts that U.S. petroleum consumption will rise from 15.3 million barrels a day in 1982 to 18 million in 1985, then decline to 17 million by the end of the decade.

- The fastest rate of growth will be in electricity consumption, which the EIA predicts will grow at an average rate of 3.8 percent a year for the rest of the decade. Nuclear power will be the fastest growing sector within this category, providing 8 percent of gross energy in 1990 as compared with 4 percent in 1982.

- The international price of a barrel of crude oil, according to the EIA, will rise from the present level of \$28 to something between \$28 and \$48 by 1990.—**ELIOT MARSHALL**

\*1982 Annual Energy Review and 1982 Annual Energy Outlook (Department of Energy, Energy Information Administration, Washington, D.C.).

money has been strongly argued by Britain's Minister of Information Technology, Kenneth Baker, who pointed to a general consensus within British computer companies that only a broad-based collaborative research effort will be sufficient to meet the Japanese and U.S. challenges. Indeed the Alvey committee was itself set up at the request of industry.

There have been some concessions to Thatcher's political qualms. The Alvey committee, for example, suggested that some research carried out in industry should be 90 percent sponsored by the government, although the results were going to be made widely available to other companies. This proposal, however, has been dropped, so that government support for all industrial research projects will be limited to 50 percent of the cost. "Ninety percent government funding does not secure a sufficient industrial commitment and could lead to the program becoming divorced from industry's needs," according to Jenkin.

In virtually all other respects, however, the Alvey recommendations have been accepted. For example, the government has agreed that the subsidiaries of foreign multinationals will be able to take part in the research program in cases where, in Alvey's words, they can contribute "a particular asset vital to the program" but on condition that "it is guaranteed that valuable technical information will not leak from the United Kingdom."

The 5-year program will involve the activities of three government ministries. The Department of Education and Science, through its funding both of universities and of the Science and Engineering Research Council (SERC), will be primarily responsible for promoting advanced research in academic institutions and the training of the necessary manpower. The Ministry of Defense will—as in the United States—contribute its experience in the field of integrated circuits, and will fund any of the research felt to be of particular interest to the defense industry.

Principal responsibility for the program, however, will rest with a small directorate being established within the Department of Industry, which will also contribute most of the new research funds. The directorate will be headed by Brian Oakley, for the past 4 years secretary of the SERC and one of the main architects of the Alvey committee's proposals. It will itself report to a small supervising board of industrialists chaired by Sir Robert Telford, chairman of Marconi Avionics.—**DAVID DICKSON**