assault on social science research has transformed" the politics of the field. The argument that social science will help solve pressing social problems does not cut much ice nowadays, he says. Instead, a case must be made that fundamental research in the social sciences, as in the hard sciences, is a wise and ultimately useful investment.—CONSTANCE HOLDEN

U.S.S.R. Faces Tough Decisions on Energy

The Soviet Union has such an overwhelming proportion of the world's energy reserves that its status as an energy exporter is secure for years hence. It has 40 percent of world coal and gas reserves and is the world's largest producer of oil.

Nonetheless, as exploration has probed ever deeper in the remote and frigid reaches of Siberia, high costs of production have led to stagnation in both the coal and oil industries, according to a recent report from the Brookings Institution. The one bright spot is natural gas, some of which will start flowing next year through the new pipeline to Northern Europe.

Author Ed A. Hewett notes that in 1977 the Central Intelligence Agency predicted that the Soviet Union would become an oil importer by the mid-1980's. He says the report's reasoning was sound, and that it may have contributed to the country's decision to put massive new investments in Siberian oil development in the late 1970's. The current slowdown is part of the price of rapid development—for example, the use of water injection techniques which allow for fast but inefficient recovery, and neglect of exploratory drilling.

Hewett says the 7-year decline in energy growth rates suggests that energy exports will have to be adjusted accordingly. He sees three possible courses for the Soviet leadership. One would be to restore the growth rates, a policy that would involve sucking additional capital from the rest of the economy. Another would be to cut exports for hard currency. This would be painful as 70 percent of the country's hard currency—other than that from military sales—comes from energy exports. Alternatively, subsidized energy shipments to Eastern Europe could be reduced, but this could aggravate political instability. A third course would be to slow down production and invest in conservation.

The dramatic increase in energy production costs is taking its toll on the rest of the economy, says the report. One third of the country's investment goes to energy production—or 40 percent if transportation costs are included. The emphasis on energy investment in an economy whose progress is otherwise glacial is taking its toll in the manufacturing sector as well as on housing and public works.

Hewett further notes that "Soviet energy consumption is extraordinarily high by world standards." In proportion to the country's gross national product, consumption is 2.5 times that in Europe. Much of this has to do with the prevalence of outmoded plants and equipment, and the heavy use of energy-intensive materials.

The upshot of the matter seems to be that the Soviets have skimmed the cream off their stunning wealth of energy resources, and that a new strategy will be required for efficient exploitation of the reserves. Hewett writes: "for the Soviet economy, and particularly for its energy sector, the future will be far more difficult than the past."—CONSTANCE HOLDEN

DuPont Stakes Out Turf for Life Sciences Research

Wilmington, Del. DuPont dedicated an $85-million biological research facility on 14 September, culminating several days of scientific meetings and celebrations centering around the company's recently enlarged interests in basic biology. The events left little doubt that the giant Delaware-based chemical company is dedicating considerable resources to, and staking part of its future on, health and agricultural research.

In fact, DuPont has just opened two new research facilities at its campus-like experimental station. The larger is the health sciences complex, which adds 250,000 square feet of new lab and office space, and the other is a plant sciences facility, which adds 100,000 square feet of space to an existing facility. Although there are still unfilled slots, the company has been rapidly adding biologists to its research staff during the past 3 years, according to director of central research Richard Quisenberry. There are now about 220 Ph.D. scientists doing research in life sciences at the experimental station, he says, making it the largest group within central research. It is expected eventually to include about 300 scientists, he adds.

DuPont's budget for biological research also has grown. Across the entire corporation, which includes subsidiaries such as New England Nuclear (acquired in 1981), biological research and development work accounts for $250 million in 1984. Much of that sum is absorbed by the expensive development and safety testing costs associated with pharmaceutical products. However, a substantial fraction of the budget—$45 million next year—will go for basic research in the life sciences in programs at the experimental station, Quisenberry says. DuPont also supports a modest amount of "extramural" biological research at universities, most notably Philip Leder's program in genetics at Harvard Medical School. The company is "contemplating" other, similar commitments.

DuPont's leaders say this move into biology is a risky but carefully considered strategy. The alternative route, of buying up a well-established pharmaceutical company as a way of entering the biological age, was rejected. "We don't know if we'll be successful with this approach," Quisenberry told *Science*. "But the bet is we'll bring in something different."

Besides committing itself to an ambitious research program in basic and applied biology, DuPont is also beginning to prod Washington on the ticklish matter of properly regulating biotechnology. DuPont chairman Edward Jefferson used part of the dedication ceremonies to argue that biotechnology matters should be taken out of "regulatory limbo." He urged the federal government to move more quickly on biotechnology, to set up a consistent effort to deal with questions of jurisdiction, to establish a special counselor to the President on biotechnology, and to move authority out of the National Institutes of Health's advisory committee only after proper alternatives are put in place.

—JEFFREY L. FOX