overlapped some of the programs at the National Institute of Child Health and Human Development. Another example is the HNC program at Tufts University in Boston that would have focused on the nutritional needs of the elderly. In 1979, Congress appropriated $21 million for construction of a center at Tufts, and it would have eventually had an operating budget of nearly $10 million a year. In contrast, the nutrition research budget at the National Institute on Aging in 1979 was $3.1 million.

The fate of some of the new centers is now up in the air, according to former HNC officials. "Tufts was to have been finished next summer," says Hegsted. "And I can't imagine anyone leaving a 15-story building empty, so I guess that the program there will be all right. Baylor may be in a little tougher position because they have a program but no facility."

The directors of centers that already have established programs will now report to the regional administrators of the Agricultural Research Service (ARS), rather than reporting to the director of the Human Nutrition Center. This bureaucratic arrangement implies a de-emphasis on the role of central USDA coordination of the human nutrition research programs, although ARS administrator Terry Kinney says such a change will not affect the drive of the programs. "We will give human nutrition just as much attention as it got in the past, and we're going to make these programs work."

The cornerstones of the HNC research empire were laid in 1979, and the normal pace of research insured that few projects had time to develop to the point that they could have an impact on policy before the unit was dissolved in June. However, Hegsted says that there were at least two areas of research that would have soon had an impact: research on the link between dietary fat and blood pressure, and work on dietary fiber. "Even with the closing of the HNC," says Hegsted, "these programs might still make an impact if everyone communicates with each other." Whether that will be the case remains to be seen. In the meantime, it is clear that a controversial era has drawn to a close. A unique mission of the HNC was to take the insights provided by basic research and feed them into the USDA policy-making machinery, whose seemingly infinite cogs affect the eating habits of millions of Americans. Whether this approach was right or wrong seems less important than the fact that a nucleus of people at the HNC in a short time succeeded in putting a little new life into one of the oldest and most entrenched of Washington's bureaucracies.—WILLIAM J. BROAD

The unit was exceptional because it emphasized consumer rather than producer interests, and it linked the conduct of research with the formulation of policy.

Reagan Energy Plan Reluctantly Unveiled

Administration sees growing use of coal and nuclear power but limited role for renewable energy resources

Six months after taking office, the Reagan Administration has issued its first comprehensive energy plan. A paean to the virtues of free enterprise and a warning on the hazards of government regulation, it lays out an energy policy that differs sharply from those of previous administrations. The plan provides the first indication of how Reagan's energy policy makers see their free market philosophies affecting energy supply and demand over the next two decades.

The document envisages oil imports holding steady until the mid-1980's and declining thereafter, coal production rising sharply, and nuclear power expanding by a factor of 4 by the year 2000. As for renewable resources, the Administration has clearly abandoned President Carter's loudly proclaimed goal of meeting 20 percent of the nation's energy needs with renewables within two decades. Even including hydropower and geothermal energy, their share will be less than 10 percent in 2000, according to the plan's projections.

Reluctant planner

Secretary of Energy James B. Edwards

The very notion of producing an energy plan was evidently anathema to an Administration that does not favor central government planning. The document, which is required by Congress every 2 years, is crowded with statements that energy policy should be set by market forces and not by the federal government. Even the title, The National Energy Policy Plan, reflects this philosophy, for the Carter Administration's efforts were called National Energy Plans I and II. The word policy was inserted, says J. Hunter Chiles, director of policy planning and analysis in the Department of Energy, "because this document represents a policy, not a rigid plan."

The centerpiece of the Reagan energy policy is the decision, taken within the first few weeks of the Administration, to decontrol the price of domestic oil. If oil prices are allowed to rise, the Adminis-

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tration argues, alternative energy sources will become economically competitive without government support, conservation will be encouraged, and domestic oil production will be spurred. These assumptions have provided the justification for revamping the synthetic fuels program launched by the Carter Administration and for eliminating many programs designed to boost conservation and renewable energy resources.

The Administration has lost none of its enthusiasm for oil price decontrol, but it has become a little more circumspect about some of the results. For example, President Reagan announced many times during the election campaign that the flow of oil from American wells could be increased if only the oil companies were given more incentive to produce—a sentiment echoed by Secretary of Energy James B. Edwards during his confirmation hearings. But the energy plan now envisages domestic oil production declining slowly during the 1980's in spite of increased drilling. Reagan's energy planners argue that their policies will simply help slow the rate of decline.

The plan's projections—which it emphasizes are not predictions—indicate that the drop in domestic oil production will be offset during the 1990's by increased secondary and tertiary recovery of oil and by contributions from synthetic fuels. Again, however, the Reagan Administration differs from its predecessor in its policies for encouraging the production of synthetic fuels, and has abandoned the goal of bringing substantial capacity into operation in the 1980's.

The Carter Administration's crash program to establish a domestic synfuels industry has been restructured to reduce direct government involvement and to permit market forces to play a stronger role in setting the pace of development. The Department of Energy has withdrawn funding for several large demonstration plants and redirected its research and development effort toward long-term, high-risk studies. However, substantial support for private industry will still be available through the Synthetic Fuels Corporation in the form of loan and price guarantees. The Carter program set a goal of producing some 2 million barrels a day of synfuels by 1990; the Reagan energy plan envisages production of 500,000 barrels by that date.

Coal is expected to be the leading growth area, with domestic consumption climbing from about 3.5 million quads (quadrillion British thermal units) in 1980 to perhaps 7.5 million quads by 2000. This sharp growth will owe much to the relaxation of environmental controls on the mining and burning of coal and the opening of federal lands to strip-mining, if the Administration gets its way with Congress. "Environmental concerns," states the energy plan, "must be tempered with common sense."

As for nuclear power, the plan states that "the Administration is committed to reversing the past federal government excesses and to providing a more favorable climate for efficient energy production, thus allowing nuclear power to compete fairly in the marketplace with other potential sources of energy supply." Although the plan offers few specifics, it suggests that the Administration will try to speed up the licensing process for new power plants and hints that approval for spent fuel reprocessing is being considered. A nuclear policy statement is expected to be issued by the Administration in the next few weeks.

Whatever the Administration decides on nuclear power, its contribution to the nation's energy supply will grow only slowly during the coming decade, for in recent years there has been a sharp reduction in the number of plants ordered. Cancellations have in fact outnumbered new orders since the early 1970's. By enhancing the regulatory environment for nuclear power, however, the Administration is hoping to see an increase in the number of reactors ordered in the 1980's.

The Reagan energy policy differs from that of the Carter Administration most sharply on conservation and renewable energy. The Carter Administration had made conservation a central theme of its energy policy, launching an array of programs to encourage energy savings through financial incentives, regulations, and demonstration projects. And on 3 May 1979 President Carter officially proclaimed the goal of meeting 20 percent of

Brain of Einstein Continues Peregrinations

When Einstein died on 18 April 1955, his body was cremated but his brain, according to his specific direction, was removed to be used for research. It thereupon began a journey which, like the flying Dutchman's, seems to have no end in sight.

The sage's cerebral remains disappeared for some 20 years until Steven Levy, then a reporter for the *New Jersey Monthly*, set out to find what had become of them. He finally located the bulk of most of what was left of it, reposing in a Mason jar packed in a cardboard box marked COSTA CIDER, in an office in Wichita, Kansas (*Science*, 25 August 1978, p. 696).

The office belonged to Thomas S. Harvey, who had been entrusted with the brain as the pathologist at the Princeton Hospital where Einstein died. Harvey had had most of the brain sectioned and distributed to various specialists for study. He had not published any of the findings, as of August 1978, but hoped to do so in "perhaps a year."

Three years having rolled by, the world has been presented with a work of science fiction, *Einstein's Brain* by Mark Olshaker, but not with any scientific treatise on the neuroanatomy of the mind that shaped the foundations of modern physics. It seemed not unduly premature to inquire when the report would be ready.

Harvey has since moved from Wichita to the town of Weston, Missouri. He has not yet written up his study of the brain. He has no firm date for doing so. Asked what his article is likely to conclude, Harvey says he has "No concrete plans. I have my ideas about it but they have not solidified." The results from the specialists who studied sections of the brain show that everything is "perfectly within normal limits except for the changes due to age."

Harvey possesses "small fragments" of the brain but declines to say exactly where they are now stored. Einstein's estate, he says, has no interest in them.

In one of those curious but meaningless knots it pleases fate to tie, reporter Levy, who traced Einstein's brain to Wichita, has now moved to New York. Scanning the address list of his apartment building one day, Levy realized that Einstein had not finished with him: he had moved under the same roof as the Einstein Estate. . . .—NICHOLAS WADE

Drawing: © Estate of Ben Shahn 1981

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the nation's energy needs in 2000 with renewable resources. This goal was backed up by a sharp increase in government spending on solar energy programs.

The Reagan Administration has taken a different tack. It has argued that conservation and the use of renewable resources will be spurred by rising oil prices and that the federal government should step aside and allow market forces to operate. Consequently, the Administration has proposed a cut of more than two-thirds in federal spending on conservation and renewables and has targeted for extinction a slew of regulation designed to encourage more efficient use of energy. According to the energy plan, higher oil prices alone will restrain growth in energy consumption to between 1 and 1.5 percent a year.

One prominent casualty of the change in direction is the Solar Energy Research Institute (SERI), which had become the spearhead of the Carter Administration's efforts to boost the contribution of renewable energy resources. Its budget will be slashed from about $120 million this year to $50 million next year, and more than 300 researchers will lose their jobs at SERI before October. Its director, Denis Hayes, was fired in June, whereupon he charged that the Department of Energy is "systematically setting out to destroy the solar option."

The Administration has clearly abandoned the goal of producing 20 percent of the nation's energy needs with renewables within two decades.

The energy plan's projections for all renewable energy resources, including hydroelectricty and geothermal power, indicate that their contribution will climb from about 6.4 percent of total consumption now to about 9.7 percent by 2000. Asked whether this means that the Reagan Administration has formally abandoned the 20 percent goal, Hunter Chiles merely pointed out that it has taken three decades for nuclear power to meet just over 3 percent of the nation's energy needs, and that it would be unrealistic to expect renewable energy resources to reach 20 percent in less than two decades.

The Reagan Administration's plan thus represents a clear break with the policies that have guided both Republican and Democratic administrations since the early 1970's. It has essentially abandoned the whole idea of setting goals for energy supply and demand.

—COLIN NORMAN

Reagan Outlines Nonproliferation Policy

New "framework" counts on cooperation, promotes nuclear trade, puts less emphasis on U.S. control of nuclear fuel, technology

In his first full-scale statement on nuclear nonproliferation policy President Reagan on 16 July indicated that his Administration will rely more on broad political and diplomatic initiatives to prevent the spread of nuclear weapons than did the Carter Administration and less on efforts at direct control of nuclear fuel and technology.

As expected, the President signaled a relaxation of U.S. opposition to reprocessing of nuclear fuel and development of breeder reactors by other countries "where it does not constitute a proliferation risk." The statement also specifically encourages commercial nuclear exports from the United States.

In a key expression of Administration attitude on nonproliferation policy Reagan said, "In the final analysis, the success of our efforts depends on our ability to improve regional and global stability and reduce those motivations that can drive countries toward nuclear explosives." A strong advocate of this view has been Arms Control and Disarmament Agency director Eugene V. Rostow, who has insisted that arms control efforts must be accompanied by greater attention to problems of world order. In respect to the proliferation of nuclear weapons Rostow says, "There is no point for exporting countries to expect (nonweapons) countries which see themselves under grave threat to resist the temptation to go nuclear."

Other Administration officials have suggested that the United States will be more willing in the future to provide conventional weapons or offer the protection of the U.S. nuclear umbrella to reduce other nations' feelings of need to develop nuclear weapons capacities.

As an example of the kind of political initiative that might be taken, Rostow said the Administration is examining the possibility of a Middle Eastern nuclear-free zone similar to one in Latin America created by the Treaty of Tlatelolco. Rostow said that such a proposal would not prosper in the present atmosphere in the Middle East, but that the White House wants the idea to be explored.

The presidential statement affirmed the prevention of the spread of nuclear weapons to additional countries as "a fundamental national security and foreign policy objective." It also went down the line in pledging adherence to the nuclear nonproliferation treaty and to the system of safeguards administered by the International Atomic Energy Authority (IAEA) in Vienna. The adequacy of IAEA inspection of nuclear facilities was called into question after the Israeli bombing attack on the Iraqi reactor site on 7 June. The Reagan statement said the Administration would work to improve the international system.

In a prompt reaction, a Senate resolution in favor of drastically strengthening the international nonproliferation regime was passed 89–0 the day after the President's statement was released. Aimed at tightening restrictions on "dangerous nuclear trade," the resolution calls for a temporary world moratorium on transfers of uranium enrichment and reprocessing equipment and proposes several improvements in IAEA safeguards, including their extension to all nuclear

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