state & society

Carter announces plans to spur industrial innovation

President Carter announced in October his proposals for stimulating industrial innovation, 18 months after the inception of his domestic policy review on this subject, conducted by assistant secretary of commerce for science and technology Jordan Baruch. The President's $55 million worth of programs were hailed as a wisely cautious beginning by some but criticized by Congressmen, corporate executives and academics expecting something more substantial after the enormous effort that went into the domestic policy review.

Although the White House was not fully persuaded of the decline in US technological innovation (as measured by productivity growth and trade deficits), Administration policy-staff members were convinced that the Federal government can improve the innovation rate and that such an improvement would have positive economic and social effects. The domestic policy review involved 28 Federal agencies and offices and hundreds of individuals from industry, labor, academia and public-interest groups.

Some concern has been raised about the degree of correlation between the President's proposals and the original domestic policy-review task-force recommendations, though a White House spokesman told PHYSICS TODAY that most of the original recommendations that were directed specifically towards innovation were adopted by the President. The results of the study passed through so many stages of condensation and revision on their way to the President that, as with a piece of distorted gossip, it is not clear who made the noticeable changes, or, perhaps more appropriately, who didn't.

Nine domestic review task forces submitted reports last spring to Baruch, who then, in consultation with Presidential science adviser Frank Press and an interagency task force, prepared a lengthy list of recommendations that were sent in June to the White House. There, Carter's domestic policy staff prepared a "decision memorandum," a list of options for the President, from which he drew up his plan. Neither Baruch's report to the White House nor the White House decision memorandum have been made public. Ironically, in the spring of 1978, soon after the domestic policy review was announced, Press justified this latest study on the subject of innovation by saying that this one would be different because "the resulting policy options will come directly to the President."

"What can I get for $55 million?"

By the President's admission, his industrial innovation initiatives constitute only "first steps in meeting the Nation's commitment to innovation." There are nine areas in which the President has made specific decisions regarding innovation. Included in the nine are:

Information transfer. Carter would like to create a center within the existing National Technical Information Service for "improving the flow of knowledge from Federal laboratories and R&D centers to industries." The President's plan would also attempt to tap foreign technological and scientific advances by having the NTIS include in its activities extensive foreign technical literature collection and translation and by asking scientists returning from overseas visits for voluntary interviews with State or Commerce Department representatives to disclose any foreign technological developments they may have observed.

Increasing technical knowledge. To this end the President would establish four "generic technology centers" at universities or other private sector sites in FY 1981 at a cost of $6–8 million. Each center would be jointly financed by industry and government, three of the initial four being sponsored by the Commerce Department and one by the National Science Foundation. In addition, the President has decided to provide $20 million of new funds in FY 1981 for the NSF program begun in 1978 that funds projects proposed jointly by industry–university re-

Grants for innovation

Separately from the President's action, the National Science Foundation has announced that its Division of Applied Research is soliciting proposals under its Applied Physical Sciences Program that show promise of leading to technological innovations. The deadline for such proposals is 14 March for all 1980 funding. For more information contact Howard D. Greyber, Program Manager for Applied Physical Sciences, NSF, Washington, D.C. 20550. Telephone (202) 634-1607.

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search teams, and to extend that NSF program to other agencies. Carter said he hopes such programs may eventually reach a funding level of $150 million per year.

Patent Policy. Admitting that free public right to use patents owned by the Federal government has resulted in almost no commercial application of Federal inventions, Carter said he supports uniform government patent legislation that would provide exclusive licenses to contractors in specific fields of use but will permit the government to license firms in other fields. He said that he also supports the thrust of S414, a patent reform bill now in Congress that would allow the retention of patent ownership by small businesses and universities, though he has not, as of this writing, fully endorsed the current version of the bill (PHYSICS TODAY, September, page 106).

Small business. Carter will attempt to foster innovation in small, high-technology firms by expanding the Small Business Innovation Research Program of the NSF from $2.5 million to $10 million in FY 1981, by establishing state or regional "Corporations for Innovation Development," by encouraging Federal agencies that contract for R&D services to involve small business as much as possible in their contracts and by making venture capital more available to small businesses.

Other areas the President's initiatives deal with are anti-trust policy, Federal procurement, regulation, labor adjustments to innovation and what Carter calls "attitude toward innovation." The White House will also sponsor an annual award for technological innovation in the future.

Although the initiatives would funnel about $400 million a year into innovation programs, only about $55 million of that is new money, the rest resulting from a redirection of other programs. The White House is stressing not the money, but the importance of the changes the plan enacts in government policies toward innovation, but some see the 1981 fiscal year starting date as a sign of lack of enthusiasm on the part of the Administration.

Several bills now under consideration in Congress embody many of Carter's proposals. His Generic Technology Centers, for example, are included in the National Technology Innovation Act, introduced in the Senate by Adlai Stevenson (D-Ill.). Several Congressional committees are therefore eagerly awaiting the President's endorsement of their bills, though the President may choose to write his own legislation or propose amendments to existing bills.

Congressional reaction to the President's proposals, announced at an unusual four-committee joint House–Senate session in October, was lukewarm. While Don Fuqua (D-Fla.), chairman of the House Committee on Science and Technology, endorsed the Administration's efforts, he echoed the President's words, calling the proposed actions only a "first step."

Most of the critics of the President's plan agree with it in principle, but feel that it is inadequate. Roland Schmitt, vice president, corporate research and development at General Electric Co., told us that although "many of the proposals could be helpful when they are implemented, the total impact of the specific initiatives cannot be sufficient to make a noticeable difference in the rate of industrial innovation or in the competitiveness of US industry."

Betsy Ancker-Johnson, who was Baruch's predecessor as assistant secretary of commerce for science and technology and is now vice-president for environmental activities at General Motors, is one of the strongest critics of the President's proposals. Not only had the subject been studied exhaustively before (including by her office when she was at Commerce), but "the major task-force reports have been largely ignored, especially those from the private sector," she said. Specifically, she pointed out that, although the domestic policy review subcommittee on economic and trade policy said in its report that "tax policy is the only tool at the disposal of the government that can have anywhere near the required impact" on industrial innovation, Carter included no tax reform proposals in his initiatives. Carter said in October that he "understands and fully appreciates that changing certain of our tax laws could provide additional incentives for investment in innovation," but that because any tax reform would affect the whole economy, such reforms must be evaluated in the broader context of fiscal policy and other tax measures and therefore will be considered "at the time that I consider my fiscal policies for Fiscal Year 1981."

Ancker-Johnson called some of the President's proposals "laughable" and "embarrassing," most notably Carter's plan for information transfer, which she sees as "a game of amateur industrial espionage." Testifying before the Senate Committee on Commerce, Science and Transportation late last year, she said that "the administration might more profitably have heeded the advice of its advisory subcommittee on information," which recommended, in part, collecting foreign patents, barring access to data which is not routinely made available by our foreign competitors, revising the Freedom of Information Act to prevent the publication of trade-secret information and ensuring effective protection of computer software.

Perhaps if the domestic policy review had not been announced with such pomp and circumstance, Congress and the public would not have been so disappointed in it. But expectations were raised by a great deal of advance publicity, and the final product, by most yardsticks, did not measure up. —MEJ

Scientist–astronaut now senator

Most of us discard our youthful ambitions as we grow up; others merely shelve them temporarily. Harrison H. Schmitt belongs to the latter category. At the age of 44, he has had careers as a scientist, an astronaut and a Senator. He received a bachelor's degree from Caltech in 1957 and studied at the University of Oslo under a Fulbright Fellowship during 1957–58. Schmitt earned a PhD in geology from Harvard University in 1964. It was at Harvard that he first began thinking in terms of a political career, but he was sidetracked for a few years.

In 1965 Schmitt joined the NASA Apollo program. As the lunar module pilot and geologist of Apollo 17, the last manned Moon mission, he landed on the Moon in December 1972. Schmitt was appointed NASA Assistant Administrator for Energy Programs in 1974.

He resigned from this post in 1975 and returned to his native New Mexico to enter the senatorial race. He won election on the Republican ticket in 1976 and, as the only physical scientist in the Senate, now serves on the Appropriations Committee, the Commerce, Science and Transportation Committee and the Select Committee on Small Business.

PHYSICS TODAY recently interviewed Schmitt in his Capital Hill office. He spoke about the issues he is currently facing. As a former astronaut, Schmitt has a special interest in the space program. He is the sponsor of two bills attempting to rectify the current situation in which "NASA has not set a space poli-

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