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Detailed Fact Sheet

The President's Energy Message

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The President today sent to Congress a comprehensive message summarizing progress made in moving the Nation toward energy independence, outlining actions he has taken to achieve our goals, listing legislation which awaits action by the Congress, and urging the Congress to act promptly on all the proposals that are needed to achieve the Nation's energy goals.

I. BACKGROUND

- . In his January 1975 State of the Union Message, the President announced the following energy independence goals:
 - In the near-term, 1975-77, halt our growing oil import dependence.
 - In the mid-term, 1975-1985, attain energy independence by achieving invulnerability to disruption from another oil import embargo; i.e., a 1985 import range of 3-5 million barrels per day (MMB/D), replaceable by stored supply and emergency measures.
 - In the long-term, beyond 1985, mobilize U.S. technology and resources to supply a significant share of the Free World's energy needs.
- . Subsequently, during 1975, the President:
 - Proposed to Congress the Energy Independence Act of 1975, containing a comprehensive set of measures to conserve energy, increase domestic energy production, provide strategic reserves, provide standby authorities in the event of another embargo, and pursue a vigorous energy program consistent with appropriate environmental safeguards.
 - Took administrative actions to impose an import fee on crude oil to encourage conservation and reduce dependency.
 - Launched major programs, to the extent possible within available authority, to conserve energy and increase domestic production.
 - Proposed additional legislation to deal with energy requirements such as handling natural gas shortages, and expanding capacity for enriching uranium for nuclear power plants.
 - Signed (December 1975) the Energy Policy and Conservation Act (EPCA) which contains several of his proposals including:
 - .. A national strategic petroleum reserve to provide a stockpile for future embargoes.
 - .. Standby allocation, rationing and other authorities for use in the event of another embargo.

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- .. Conservation measures to improve energy efficiency by affixing energy labels on appliances and autos.
- .. Extension of the Federal Government's authority to require utility and industrial conversions to coal from oil and gas.

The Act also contains automobile efficiency standards and an oil pricing formula that provides for decontrol after 40 months.

- . In his January 1976 State of the Union Message, the President briefly summarized the energy situation and underscored the need for Congressional action.
- . In his 1977 Budget, the President proposed major increases in funding for the Federal share of programs to achieve the Nation's energy independence goals.

II. CURRENT ENERGY SITUATION

- . Domestic oil production continues to decline. Production in 1975 averaged about 8.4 million barrels per day (MMB/D) -- a decline of about 0.7 MMB/D from the time of the embargo and about 13 percent from peak production in 1970. The United States is no longer the world's leading producer of crude oil.
- . The United States paid about 27 billion dollars for foreign oil last year -- over \$125 for every American.
- . Petroleum imports averaged about 6 MMB/D, about the same as 1974, but crude oil imports increased by almost 20 percent.
- . Natural gas production declined for the second straight year. About 20.1 trillion cubic feet (Tcf) were produced in 1975, as compared to 21.6 Tcf in 1974 and 22.6 Tcf in 1973. Curtailments have grown from 0.1 Tcf in 1970 to about 3 Tcf this year.
- . Coal production was about 640 million tons in 1975, an increase of only 6 percent from 1974.
- . The contribution of nuclear power to the generation of electricity increased from 6 percent in 1974 to about 8.5 percent in 1975 and will continue to rise.

III. FUTURE ENERGY OUTLOOK

- . Near-Term (1976-1978): In the next 2-3 years, oil imports will increase unless rapid action is taken on conservation measures, Naval Petroleum Reserve legislation, Clean Air Act Amendments, and domestic production incentives which could be allowed under current price controls. Without legislative and administrative action, imports would have been about 8 MMB/D in 1978; with action, imports can be held to about 6.5 MMB/D and vulnerability to an embargo can be reduced by 1.0 MMB/D (see Figure 1 and Table I). Vulnerability is defined as the amount of oil imports that could not be offset by use of standby measures and oil, from strategic reserves in the event of another embargo.
- . Mid-Term (1976-1985): There is considerable flexibility to improve our energy situation in the next ten years. Under assumptions of continued high imported oil prices, the

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Nation's vulnerability to an embargo could be reduced to zero if the President's programs are enacted. Imports would have risen to about 10-15 MMB/D if none of his programs were enacted. Under the program already enacted and administrative actions being taken, about two-thirds of our potential vulnerability reductions will be achieved (see Figure 2 and Table 2). Further, the role of coal and nuclear power will be significantly expanded in the next ten years. The updated FEA National Energy Outlook to be released shortly will discuss in detail the mid-term energy situation.

- . Long-Term (beyond 1985): The results of the U.S. energy research and development program will have an important effect on our long-term supply and demand situation. ERDA will soon issue an updated energy R&D plan describing Federal programs to develop advanced technology for energy conservation and for using solar, fossil, nuclear fission and fusion power, and geothermal energy sources.

IV. THE PRESIDENT'S ENERGY PROGRAM

To meet the Nation's critical energy challenges, the President's comprehensive energy program includes:

- . Clear energy independence policy objectives and principles.
- . Energy programs that have been started with the authorities and resources now available.
- . Proposals to the Congress for additional authority and resources that are needed to meet the Nation's goals.

The principal elements of the total program are summarized in the pages that follow. The current status of the President's legislative program is shown in Table 3.

A. NATURAL GAS

- . Natural gas accounts for 30 percent of total U.S. energy consumption and over 40 percent of non-transportation needs. Domestic production peaked in 1973 at 22.6 trillion cubic feet and has declined since then. Domestic proved reserves (excluding Alaska) have steadily declined since 1965. Due to the scarcity of supply, curtailments have been increasing steadily.
- . To assure adequate supply, the President reiterated his support for deregulating the price of new natural gas, and for development of all secure sources of additional gas supply, including Alaskan natural gas, synthetic gas from coal, and imported liquefied natural gas (LNG).
- . The elements of the President's natural gas policy include:
 1. Short-term Emergency Measures (legislative): The President urged enactment of legislation providing short-term emergency measures to provide temporary authority to deal with current natural gas shortages and dislocations in the national distribution system. This legislation would allow high-priority customers and curtailed interstate pipelines to purchase temporarily uncommitted intrastate natural gas at unregulated prices.

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2. Long-Term

- . Natural Gas Deregulation (legislative): The President urged prompt action to remove the Federal price regulation on new interstate natural gas production. Such action would increase domestic production by over 4 trillion cubic feet in 1985 (about 25 percent higher than with continued regulations) and more importantly, the interstate market share could double. The President indicated support for a bill which immediately deregulates new natural gas onshore and phases out offshore controls in five years.
- . Expediting Delivery of Natural Gas from Alaskan North Slope (legislative): The President announced a new legislative proposal to develop expeditiously the 24 trillion cubic feet of estimated gas reserves on the North Slope of Alaska. This legislation would require that the Federal Power Commission complete its ongoing regulatory proceedings with respect to this issue on or before February 1, 1977. It also directs other designated Federal agencies (including the Environmental Protection Agency, the Departments of the Interior, State, Defense, Treasury, Transportation, and the Federal Energy Administration) to make assessments by February 1977, regarding proposals to transport the Alaskan gas to the Lower 48 States. After reviewing the assessments, the President would select a route subject to review by the Congress, which would have the right to disapprove his selection. If the President's selection were not disapproved by the Congress, judicial review thereafter would be limited. Over one trillion cubic feet of Alaskan natural gas could be delivered per year by the early 1980's.
- . Liquefied Natural Gas (administrative): The President directed the Energy Resources Council (ERC) to implement a new national policy regarding imported liquefied natural gas (LNG). Each proposed new project would be subject to a careful national security and economic review, but it appears that about one trillion cubic feet per year of LNG by 1985 would be acceptable. A major factor in reviewing proposed projects will be diversification of sources. An ERC task force will establish procedures for Executive branch consideration of such issues as pricing, government financial assistance, regional import dependence, source of supply, and possible reassessment of the target if deregulation is not achieved.

B. NUCLEAR ENERGY

- . Progress toward a sufficient energy supply requires expanded use of both nuclear energy and the vast domestic reserves of coal. At present, 57 commercial nuclear power plants with a capacity of almost 40,000 megawatts are on line, and a total of 179 power plants are planned or committed with a capacity of about 196,000 megawatts.

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- . If the electrical power supplied today by existing nuclear plants were provided by oil-fired plants, it would require over one million barrels of oil per day. The oil equivalent of 236,000 megawatts of nuclear powered electric generating capacity would be almost seven million barrels of oil per day. Further, the coal equivalent of 236,000 megawatts is almost 700 million tons.
- . Elements of the President's comprehensive nuclear program include:
 1. Uranium Resources (1977 Budget): The President's 1977 Budget provides for \$30 million in outlays (an increase of \$15 million over the FY 1976 Budget) to expand the ERDA program to provide more complete information on the extent of the Nation's uranium resources and \$5 million for the Department of the Interior's uranium assessment program. Even without this more complete information, domestic uranium resources known to be available plus those projected with a high degree of certainty, are sufficient to provide fuel for all reactors that are expected to be on line by 1990 over their entire lifetime. Uranium resources, together with the future market for nuclear energy, provide the basis for significant investment by industry in expanded capacity for mining, milling, and uranium conversion.
 2. Uranium Enrichment (legislative):
 - . The President urged the Congress to complete action quickly on the Nuclear Fuel Assurance Act to assure the availability of enriched uranium fuel for nuclear power plants and to foster the creation of a private, competitive enrichment industry in the U.S. Action on the legislation is needed soon because existing U.S. uranium enrichment capacity is fully committed. The Act would provide the basis for ERDA to enter into cooperative agreements with industrial firms wishing to finance, build, own, and operate uranium enrichment facilities. Thus, it permits a transition from the current Government monopoly to a private competitive industry, relieving taxpayers of the financial burden of constructing additional uranium enrichment capacity.
 - . ERDA has proposals from four firms wishing to finance, build, own and operate uranium enrichment plants. One would use the gaseous diffusion technology; the others propose to use the gas centrifuge process. ERDA expects to submit firm contracts to the Congress this session for anticipated approval under provisions of the pending Nuclear Fuel Assurance Act.
 - . Another important Administration legislative proposal awaiting Congressional action is the bill proposed in June, 1975, which would increase the price of uranium enrichment from ERDA's existing production plants. This legislation will assure a fair return to the taxpayers for their investment, place the government's pricing of this service on a basis more comparable to that of the private sector, and end the unjustifiable subsidy by the taxpayer of both foreign and domestic customers.
 3. Reactor Safety (1977 Budget): The President's FY 1977 Budget provides \$89 million in outlays in NRC and ERDA

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(an increase of 49% over FY 1976) to assure the safety of commercial light water reactor nuclear power plants even beyond their present levels of safety.

4. Improved Licensing(administrative/legislative):
 - . The President urged passage of legislation to reform the nuclear facilities licensing process by providing for early site review and approval, and encouraging nuclear facilities design standardization.
 - . The Nuclear Regulatory Commission (NRC) has taken a number of steps to reduce regulatory delays, including issuing standardized review procedures for license applications so that applicants can have available detailed information on how NRC requirements can be met, and developing procedures to coordinate environmental siting reviews by other Federal agencies and the States.
5. Availability of Commercial Nuclear Power Plants (1977 Budget): Increasing the on-line availability of commercial nuclear power plants and reducing the time required to construct these plants can lower significantly electric generating costs. Primary responsibility for reliability improvements rests with industry which spends about \$100 million per year to improve nuclear plant technologies. The President's 1977 Budget for ERDA provides \$10 million in outlays for research on basic technologies to be used by industry in its program to improve plant reliability.
6. Plutonium and Uranium Recovery and Recycle (administrative/1977 Budget):
 - . The President's FY 1977 Budget provides \$31 million for ERDA (an increase of 138% over 1976) for R&D to permit the recovery and reuse of plutonium and uranium from nuclear fuel elements (called "spent" fuel) used in commercial nuclear power plants. The recovery and reuse of this plutonium and uranium fuel can reduce the consumption of this Nation's uranium resources and hold down the costs of nuclear power. The increased R&D program in 1977 will cover light water reactor fuel reprocessing (recovery) and recycle (reuse) technologies and reprocessing plant design concepts. It will provide a basis for converting plutonium to a safe form for transportation back to nuclear power plants. It will provide additional data useful for licensing reprocessing plants and encourage the establishment of a competitive reprocessing industry at the earliest practicable date.
 - . ERDA is also obtaining suggestions from industry on what steps by industry or minimum actions by ERDA in cooperation with industry could overcome specific obstacles to commercial reprocessing and recycle.
 - . The NRC has announced procedures that are expected, by mid-1977, to resolve the regulatory issues concerning the security and safety of the reprocessing and recycling of nuclear fuel discharged from commercial nuclear power plants.

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7. Commercial Nuclear Waste Management (administrative/1977 Budget):
- . The President's 1977 Budget contains \$63 million in outlays for ERDA (an increase of \$51 million over 1976 funding levels of \$12 million) for greatly accelerating research and development on, and for investigating the suitability of several sites for long-term storage of radioactive wastes. The research and development will also focus upon improved methods for processing and packaging wastes for transportation and storage.
8. Domestic Safeguards (1977 Budget):
- . The President's FY 1977 Budget contains \$27 million for ERDA (an increase of 80% over the FY 1976 funding level of \$15 million) for further development of technology to prevent the theft and misuse of nuclear materials in future years. These funds will be used to design and test overall security systems and to develop the more comprehensive methods of accounting for nuclear materials that will be needed as the amounts of these materials in use increase substantially in the future.
 - . The President's 1977 Budget also contains \$26 million in outlays (an increase of \$12 million over FY 1976 Budget) for NRC to accelerate efforts to develop more integrated material control and accounting measures, and physical protection measures.
9. International Safeguards and Non-Proliferation (administrative):
- . Agreement has been reached between the United States and other major nuclear supplier nations to follow certain stringent export principles to assure that the provision of nuclear power does not lead to the proliferation of nuclear weapons.
 - . The President has also decided that the U.S. make a special contribution of up to \$5 million in the next five years to the International Atomic Energy Agency (IAEA) to strengthen its safeguards program, by providing training or personnel, research and development of improved techniques and services of expert consultants, specialized equipment and other appropriate support.
10. Advanced Nuclear Energy R&D (1977 Budget):
- . Fission Reactors: The President's FY 1977 Budget contains \$674 million for ERDA (an increase of 30% over FY 1976 levels of \$519 million) for research and development on improved nuclear power reactors. Most of the funds (85% in FY 1977) are for development of the Liquid Metal Fast Breeder Reactor (LMFBR), which is a proven technological concept for greatly extending supplies of fuel for nuclear power plants. The increase in FY 1977 is primarily for the continued construction of the \$2 billion LMFBR demonstration project near Oak Ridge, Tennessee.

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- . Fusion: The President's FY 1977 Budget provides \$304 million of outlays for ERDA (an increase of 36% over FY 1976 level of \$224 million in outlays) for research on determining the scientific feasibility of obtaining a virtually inexhaustible source of energy for the long-term (beyond the year 2000) from controlled thermonuclear fusion reaction. The budget permits the continued construction of the \$215 million Tokamak Fusion Test Reactor, near Princeton, N.J., which will represent a major milestone for the fusion development program.

C. COAL

- . Coal is the most abundant energy resource available to the United States, yet production is at about the same level as it was 50 years ago. Coal now accounts for only about 17 percent of the Nation's energy consumption, and long-term production is hampered by uncertainty about environmental standards, electricity growth, utility financial conditions and possible transportation constraints.
- . The President reaffirmed the necessity for a strong national coal policy as an alternative to using scarce, expensive oil and natural gas resources.
- . The following comprehensive measures will assure that coal production exceeds one billion tons in 1985:

1. Production

- . Resumption of coal leasing (administrative): The Secretary of the Interior has announced a new coal leasing policy for Federal lands designed to assure that coal development in the West occurs in an orderly and environmentally prudent manner. It is designed to assure the leasing of only that coal which is needed and only when it is needed, and that the taxpayer receives a fair market return on the sale of this public resource. The leasing process will make certain that adequate planning takes place before the leasing occurs and that the public and the States have full opportunity to make their views known prior to leasing decisions. Regulations have been proposed and will be issued governing coal mining operations on Federal lands, including stringent surface-mining controls. These will minimize the adverse environmental effects of mining operations and require that the mined lands be reclaimed. The proposed regulations provide for greatly expanded public participation and would allow application of State reclamation standards on Federal coal lands where those standards are more stringent than Federal standards, and there is no overriding national interest.

2. Transportation

- . Coal Slurry Pipeline (legislative): Legislation currently in Congress which would allow the right of eminent domain to coal slurry pipelines is

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supported by the Administration. This legislation would authorize the Secretary of the Interior to issue certificates of public convenience and necessity to expedite the construction of slurry pipelines which transport coal as a liquid slurry.

- . Rail Transportation -- Omnibus Rail Legislation (administrative): The President has signed omnibus rail legislation, which has far-reaching implications for conservation of petroleum and development of new energy sources. For many commodities, railroads provide the most energy-efficient mode of transport, and by helping the rail industry through financial assistance and regulatory reform, the energy impact will be significant. In addition, through new and improved electrification of rail lines, such as the Boston-to-Washington passenger corridor, the Nation will be less dependent on petroleum supplies.

3. Coal Use

- . Clean Air Act Amendments (legislative): The President again urged the Congress to enact responsible Clean Air Act Amendments to allow for full use of America's coal supplies. The Administration requested Congressional guidance on alternatives to significant deterioration policies and has suggested, as one alternative, deletion of the concept from the Clean Air Act. In addition, these Amendments would extend air quality compliance deadlines for some plants through 1985 to allow time to develop permanent pollution control systems. Enactment of these Amendments would strike a realistic balance between air quality and energy needs.
- . Coal Conversion (administrative/legislative): The President indicated his intention to have FEA and EPA continue aggressively the recently extended coal conversion program. Under this program, FEA can issue orders to utilities and major fuel-burning installations to convert from gas and oil to coal, and order plants under construction to burn coal instead of oil or natural gas. In addition, the President called for amendments to these authorities to remove the regional limitation provision and authorize intermittent control systems.
- 4. Coal Research and Development (1977 Budget): The President's 1977 Budget includes a 28 percent funding increase over the 1976 levels throughout the spectrum of coal extraction and utilization technologies. The following programs are covered:
 - . The Bureau of Mines (Department of Interior) will increase its outlays to \$56 million in 1977 from \$47 million in 1976 for developing new coal mining techniques that will increase production.
 - . The Bureau of Mines and Environmental Protection Agency are jointly supporting research on removing the sulfur in coal prior to burning and the development of reliable stack gas cleanup equipment. Outlays for this program will be \$31 million in 1977.

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- . The Energy Research and Development Administration's budget outlays for coal will exceed \$390 million in 1977, up from \$288 million in 1976, including efforts on converting coal into clean-burning liquid and gaseous fuels, the development of clean-burning coal fired boilers (fluidized bed combustion), and research on developing high efficiency techniques for obtaining electric power from coal combustion through topping cycles and magnetohydrodynamics.

D. Oil

- . Domestic oil production peaked in 1970 and declined by about 5 percent last year. Exploration activity reached record levels in 1957. Further, while petroleum consumption has been reduced since the embargo, demand is likely to increase in 1976 as the economy recovers.
- . The Nation's declining oil production must be reversed. The President has reaffirmed his intention to implement the maximum production incentives that can be justified under the EPCA and to remove price and allocation controls from petroleum products downstream as quickly as possible.
- . The other aspects of his petroleum policy include:
 1. Naval Petroleum Reserves (legislative): The President indicated his support for the basic compromise reached by the House-Senate Conference Committee considering Naval Petroleum Reserves legislation which would authorize full production of NPR's 1, 2, and 3, and would transfer NPR-4 (in Alaska) to the Department of the Interior. Development of NPR-4 would take place after Congressional consideration of a proposed development plan. NPR production could reach about 300,000 barrels a day in 2-3 years, and NPR-4 could produce almost one million barrels per day by 1985. Resources from the sale or exchange of NPR production will be used for continued exploration and development of the reserves and for the strategic petroleum reserve program.
 2. Auto Emission Standards (legislative): In June 1975 the President asked the Congress to amend the Clean Air Act to continue standards applicable to 1975-76 model cars through 1981 models. This proposal was designed to achieve the best possible balance among objectives for improving air quality, increasing gasoline mileage, and avoiding unnecessary increases in costs to consumers.
 3. OCS Lease Sales (administrative): The Department of Interior will pursue aggressively lease sales in the Outer Continental Shelf, and has scheduled eight sales in 1976. The OCS, particularly in the frontier areas, provides a crucial new potential source of energy for the Nation and could produce almost 3 MMB/D by 1985.
 4. Strategic Petroleum Reserve (administrative): The FEA will implement the Strategic Petroleum Reserve Program authorized in the EPCA. The Reserve will be similar in concept to the program proposed by the President last year. The Reserve will consist of at least 150 million barrels of petroleum within three years and authorizes about 500 million barrels ultimately. It would significantly decrease our vulnerability to any future supply interruption.

5. Standby Authorities (administrative): The FEA will submit plans to the Congress establishing procedures and policies for temporarily reducing consumption and allocating products to end-users in the event of another embargo. The President's basic legislative proposal in this area was incorporated in the EPCA.
6. Enhanced Recovery (1977 Budget): The President's 1977 Budget contains \$33 million in outlays to continue the substantial R&D program on new techniques to recover large amounts of oil that remain in existing depleting oil fields. The research and demonstration projects in fluid injection, thermal procedures, and chemical methods to enhance recovery are an important supplement to the hundreds of millions of dollars being spent annually by private industry, and should accelerate adoption by industry. The FEA also intends to provide price incentives under the EPCA to optimize enhanced recovery production.
7. Oil Spill Liability (legislative): The President is asking the Congress to pass the Oil Spill Liability Act submitted last year. This Act provides a comprehensive system of liability and compensation for oil spill damages and removal costs. It would institute a procedure for fixing liability and settling claims for oil pollution damages from all sources in U.S. waters and coastlines, and implement international conventions dealing with oil pollution caused by tankers.

E. ENERGY DEVELOPMENT IMPACT ASSISTANCE (legislative):

- . The President asked Congress to consider quickly his major new comprehensive Federal Energy Impact Assistance Program legislation. This \$1 billion program will provide financial assistance to all areas affected by new Federal energy resource development over the next 15 years. The assistance will utilize loans, loan guarantees and planning grants to plan and finance energy related public facilities prior to production. Financial assistance would be repaid from future State and local taxes and revenues from development. Repayment of loans could be forgiven if development did not occur as expected. The assistance will be available for impacts related to the development of Federally-owned energy reserves, including OCS, onshore oil and gas, coal, oil shale, and geothermal reserves. Other approaches for impact assistance now being considered by the Congress would give too much money to areas that are unlikely to have fiscal impacts and not enough money to areas that will need assistance; and some approaches would distribute funds without regard to either the timing or magnitude of actual need.

F. BUILDING ENERGY FACILITIES

- . In the next 10-20 years, American industry will have to build numerous nuclear power plants, coal-fired power plants, oil refineries, synthetic fuel plants, transportation systems, and other facilities to attain energy independence for the United States. The

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construction of these facilities has been delayed by lengthy licensing processes and difficulties in obtaining financing.

- . The President has proposed a number of measures to deal with this matter, including:
 1. Energy Independence Authority (EIA) (legislative): The President urged passage of the Energy Independence Authority (EIA) -- a new government corporation to assist private sector financing of new facilities. It would be able to provide up to \$100 billion for financial assistance to projects to develop, transport, or conserve energy; for commercializing new technologies; for technologies essential to the production of nuclear power; for conventional technologies involving production and distribution of electric power generated by sources other than oil or gas; and for conventional technologies involving projects of unusual size or scope, or projects which represent novel institutional or regulatory arrangements, in the production or transportation of energy.

EIA would also expedite the regulatory process at the Federal level for projects deemed critical for energy development. It would establish the FEA as the coordinator of a streamlined permit process for all new facilities which require Federal licensing.
 2. Synthetic Fuels Commercialization Program (legislative/1977 Budget): The President again supported enactment of authorities to guarantee at least 350,000 barrels per day of synthetic fuels production by 1985. The synthetic fuels program would provide \$2 billion of assistance to commercial facilities for synthetic gas, coal liquefaction and oil shale, which are not now proven to be economically competitive. This program would be carried forward in ERDA until such time as the EIA is enacted and the program can be incorporated under that Authority. As a first step in implementing this program, supplemental 1976 budget funding will provide for \$503 million in budget authority to cover \$2 billion in loan guarantees for the remainder of 1976. A total of \$6 billion in loan guarantees is expected to be needed over the 1976-78 period to reach the 1985 objectives.
 3. Energy Facility Siting (legislative): The President has asked the Congress to pass his Energy Facilities Planning and Development Act to assure sites for necessary energy facilities with proper land use considerations. This legislation would encourage States to develop and apply a comprehensive and coordinated process for expeditious review and approval of energy facility siting applications.

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4. Utility Rate Reform (legislative/administrative): The President has asked for enactment of his Utilities Act to reform rate setting practices. The legislation would reform utility commission practices selectively by: setting a maximum limit of five months for rate proceedings; requiring fuel adjustment pass-throughs, including taxes; requiring that construction work in progress be included in a utility's rate base; removing any rules prohibiting a utility from charging lower rates for electric power during off-peak hours and allowing the cost of pollution control equipment to be included in the rate base.

The FEA will also continue to fund demonstration programs on a state and local level to analyze the effects of different utility rate structures and load leveling techniques.

5. Electric Utilities Construction Incentives Act (legislative): The Administration continues to support these proposals which have yet to be acted upon by Congress. They include measures to: increase the investment tax credit to 12 percent for all electric utility property except oil or gas-fired generating facilities; extend (until December 1981) rapid amortization (five years) of pollution control equipment, and apply rapid amortization to converting or replacing oil-fired generating facilities; allow depreciation of construction expenses for non-oil or gas-fired facilities prior to the completion of the project if such expenses are included in the utility rate base; and allow deferral of taxes on dividends, if they are reinvested in the utility.

G. SOLAR ENERGY

- . Energy from the sun presents a potentially inexhaustible and non-polluting resource. Although the basic principles for most solar energy systems have been understood for many years, solar energy has not been widely utilized because of its high cost and the abundance of inexpensive alternative fuel sources.
- . The President reaffirmed his desire to encourage the development of practical and economical ways to use solar energy through the following actions:
 1. Solar Energy Development (1977 Budget): The President's FY 1977 Budget contains \$116 million for ERDA (an increase of 35% over an FY 1976 level of \$86 million) for increasing the research, development, and demonstration of solar energy applications. This program includes 228 projects to demonstrate solar heating and cooling in residential and commercial buildings and acceleration of the technology for the conversion of solar energy to electricity.
 2. Solar Energy Research Institute (administrative): ERDA will soon be issuing a solicitation for proposals to initiate the Solar Energy Research Institute (SERI). This Institute will lend important analytical and research support to ERDA in carrying forward the solar energy technology program.

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H. GEOHERMAL ENERGY

- . Utilization of energy from the natural heat contained in the earth's crust has been hindered by resource uncertainties, reliability problems, economics, and the institutional, legal and environmental problems associated with its development.
- . The President's major actions with respect to this energy source include:
 1. Geothermal Development (1977 Budget): The President's FY 1977 Budget contains \$53 million for ERDA and the U.S. Geological Survey (an increase of 35% over an FY 1976 level of \$40 million) to develop technology to identify, evaluate, extract, and convert geothermal energy resources to useful energy forms. Technical applications include the recovery of useful heat from hot dry rock and geopressured resources, the early utilization of high temperature brine reservoirs to produce electricity, and the direct heating of buildings using geothermal energy.
 2. Geothermal Loan Guarantee Program (1977 Budget): For this program's first full year of operation, the President's FY 1977 Budget includes \$4.4 million of outlays for ERDA to guarantee loans for projects showing promise for early production of useful geothermal energy. The loan guarantee program will support technology development by helping to make funds available during the initial period of uncertain financial risks.
 3. Geothermal Leasing (administrative): The Department of the Interior will continue its leasing in known geothermal resource areas. It is expected that 15-20 lease sales will be held in both 1976 and 1977.

I. ENERGY CONSERVATION

- . The American people have responded to higher energy prices and heightened awareness of our energy problem by conserving scarce energy resources. Some of the President's conservation program has already been enacted or implemented, but other aspects remain to be started.
- . The President's comprehensive energy conservation program includes the following actions:
 1. Federal Energy Management Program (administrative): The President has directed that all Federal agencies continue a strong energy management program. This program has already reduced energy consumption by 24 percent in the past two years, which has saved over 250,000 barrels per day.

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2. Conservation in Buildings

- . Appliance Labeling (administrative): The FEA, Commerce Department, and Federal Trade Commission will implement the President's appliance labeling program which was enacted into law in the EPCA. It requires that energy efficiency labels be placed on major appliances so that consumers can compare operating costs of appliances at the point of purchase. Appliance efficiency targets will also be placed on major appliances to improve efficiency by 1980. These programs will save about 200,000 barrels per day by 1985.
- . Thermal Efficiency Standards (legislative): The President urged enactment of his legislation establishing mandatory thermal efficiency standards for all new homes and commercial buildings. This program could save 300,000 barrels per day by 1985.
- . Insulation Tax Credit (legislative): The President urged Congress to enact his proposed insulation tax credit for homes. This program could save over 100,000 barrels per day by 1985.
- . Weatherization (legislative): The President again asked Congress to pass his proposed Weatherization Assistance Act under which grants would be available to States to help low-income and elderly persons improve the thermal efficiency of their dwellings.

3. Conservation in Industry (administrative): The FEA and Department of Commerce will implement the EPCA voluntary industrial energy conservation program. The program requires the setting of energy efficiency improvement goals for the top ten energy consumptive industries, and a new system to compile annual reports from industry on the progress towards achieving these goals. It is expected that the equivalent of 300,000 barrels per day could be saved by 1985 under this program.

4. Conservation in Automobiles

- . Automobile Fuel Efficiency Standards (administrative): The Administration will implement the mandatory automobile fuel efficiency standards of 20 miles per gallon (mpg.) in 1980 and 27.5 mpg. in 1985 established in the EPCA. The standards could save 1 MMB/D by 1985. However, the 1985 fuel efficiency standards may be modified if auto emission standards impose too stringent a fuel penalty on new automobiles.
- . Automobile Labeling (administrative): The Environmental Protection Agency will implement a program to require gasoline mileage efficiency labeling on all new automobiles.

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5. Aircraft Fuel Conservation (1977 Budget): The President's FY 1977 Budget calls for a major increase (\$25 million in outlays vs. \$7 million in FY 1976) for NASA program to work with the aerospace industry on an R&D program to produce significant savings in transport aircraft fuel use. Improvements in aircraft propulsion, structures, and streamlining could make it possible to design new airplanes that would use 50 percent less fuel than today's transports.
6. Conservation R&D (1977 Budget): The President's FY 1977 Budget provides ERDA \$91 million (an increase of 63% over the FY 1976 funding level of \$56 million) for an expanded program to improve technology and encourage conservation of energy in buildings, industry, and transportation.
7. State Energy Conservation Programs (administrative): As provided for in the Energy Policy and Conservation Act (EPCA), the FEA will work with and assist States in planning and implementing energy conservation programs.

J. INTERNATIONAL ENERGY ACTIVITIES

- . U.S. international energy policy supports and reinforces our domestic objective to end energy vulnerability. The U.S. and other major oil consuming nations have now established a comprehensive long-term energy program in the International Energy Agency (IEA) committing ourselves to continuing cooperation to reduce dependence on imported oil. By reducing over time their demand for imported oil, nations can regain influence over oil prices and end vulnerability to abrupt and unilateral OPEC price increases.
- . Actions by the Administration include:
 1. Consumer Cooperation (administrative): The President has welcomed the decision by the IEA establishing a framework for cooperative efforts to accelerate the development of alternative energy sources. Implementation of the long-term energy cooperation program will focus on the establishment of large IEA energy production projects, cooperative efforts to eliminate obstacles to increased production from various energy sectors, e.g., coal and nuclear and the expansion of R&D cooperation, including the establishment of additional joint projects.
 2. Producer/Consumer Cooperation (administrative): The U.S. has proposed the creation of an International Energy Institute to mobilize the technical and financial resources of the industrialized and oil producing countries to assist developing countries in meeting their energy problems. The U.S. delegation to the new Energy Commission will pursue this proposal actively in the discussions now underway in that forum.

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K. PRESIDENT'S ENERGY BUDGET

The President's 1977 Budget outlay estimates reflect his strong emphasis on domestic energy production, conservation and storage programs, and a substantial commitment to energy research and development. The Budget requests for energy programs are summarized in Table 4.

The President's Budget requests for energy research, development and demonstration will:

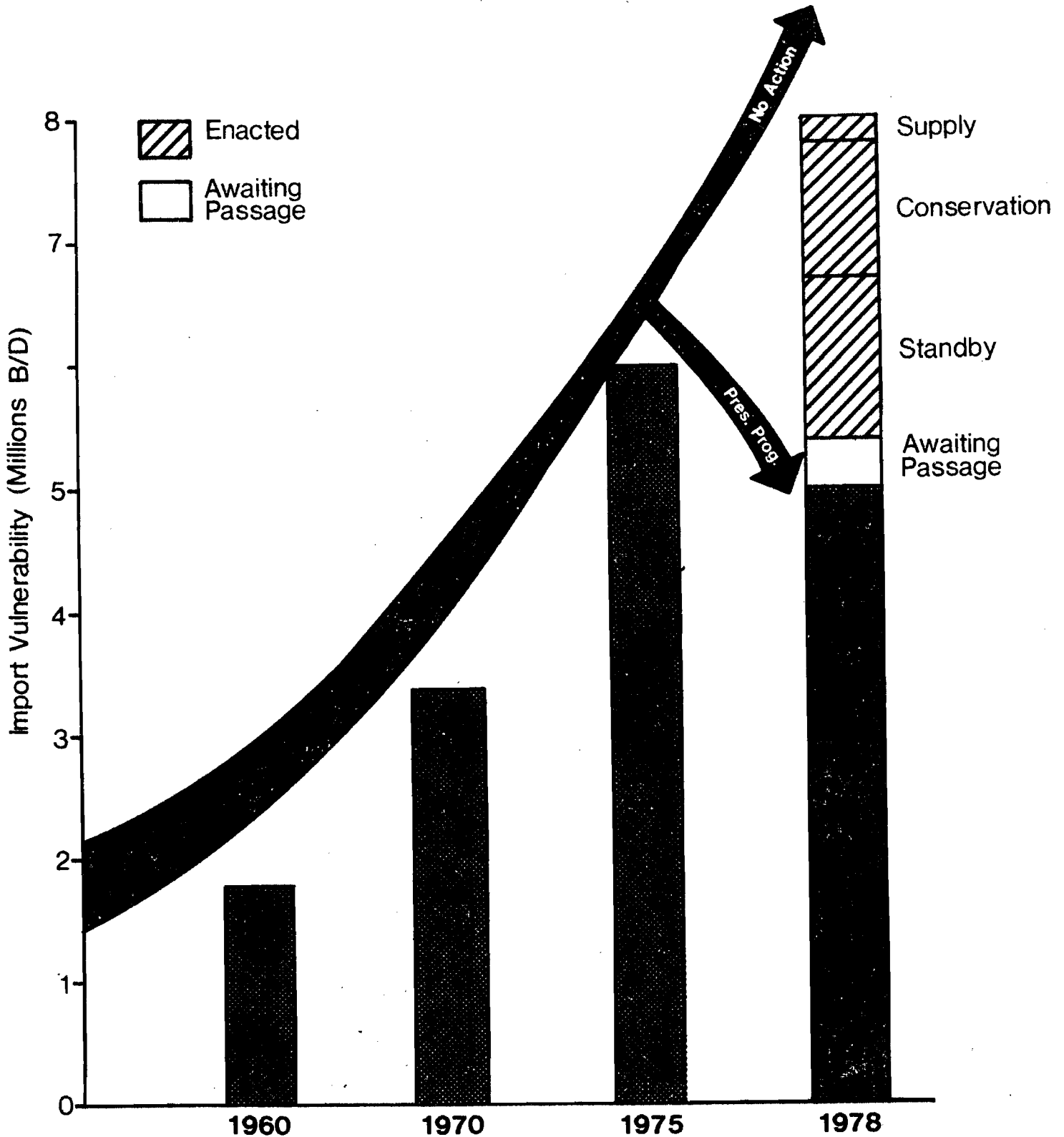
- . Fund expanded efforts to assure the continuing safety, and to improve the reliability and availability of commercial nuclear power plants;
- . Place greatest emphasis on technologies with the highest potential payoff (i.e., nuclear and fossil);
- . Increase funding of other technologies where significant long-term contributions can be made (i.e., solar, geothermal, and conservation);
- . Encourage cost-sharing with private industry;
- . Support commercial demonstration of synthetic fuel production from coal, oil shale, and other domestic resources.

The Budget requests for energy R&D are summarized in Table 5.

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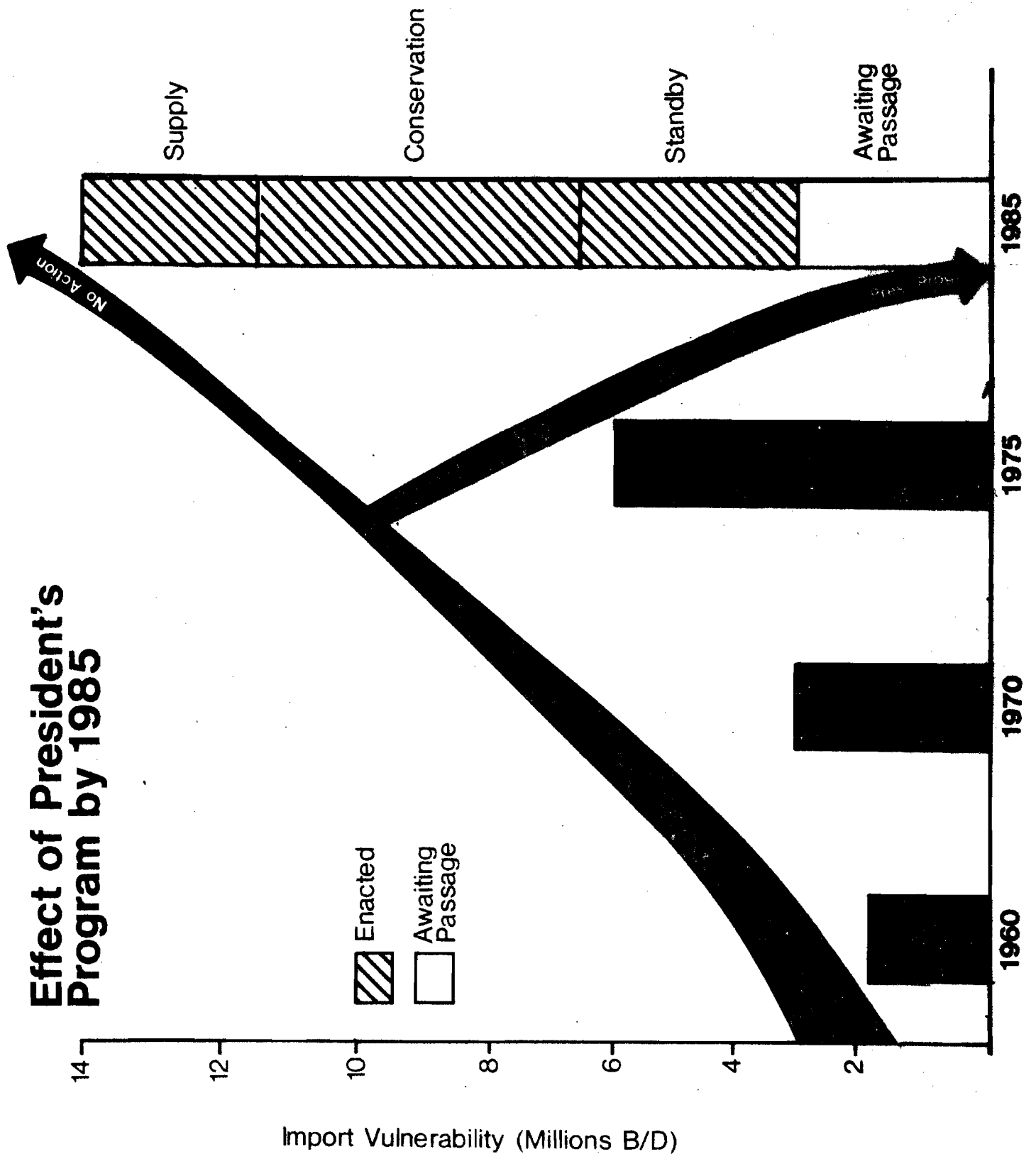
FIGURE 1

Effect of President's Program



- Imports grew from less than 2 MMB/D in 1960 to about 6 MMB/D last year.
- If no actions were taken to conserve energy, increase supply or provide standby authorities, imports would grow to about 8 MMB/D by 1978, as shown by the arrow labelled "No Action."
- However, the 1978 bar shows that supply, conservation and standby measures already enacted could reduce vulnerability to an embargo to about 5.5 MMB/D. Actually, imports would be about 6 MMB/D, but strategic reserves and standby measures could reduce vulnerability to about 5.5 MMB/D.
- Actions awaiting passage could further reduce imports by another 400,000 barrels per day by 1978, as indicated by the arrow labelled "Pres. Prog."

FIGURE 2



- If no conservation, domestic supply, or standby measures were enacted, imports could be over 13 MMB/D by 1985 (as indicated by the arrow labelled "No Action.")
- However, the 1985 bar shows that supply, conservation and standby measures already enacted could reduce vulnerability to about 5 MMB/D. Actually, imports would be over 8 MMB/D, but strategic reserves and standby measures could reduce vulnerability to an embargo to about 5 MMB/D.
- If all the President's proposals are enacted, vulnerability could be reduced to essentially zero by 1985 (as indicated by the arrow labelled "Pres. Prog.")

TABLE 1

IMPACT OF PRESIDENT'S
SHORT-TERM ENERGY PROGRAM

| | <u>1978</u> <u>Reductions in</u> <u>Vulnerability</u> <u>(000 bbls/Day)</u> |
|---|--|
| <u>Import Reduction</u> | |
| - Gradual Phase-out of Oil Price Controls** | 220 |
| - Legislation to Permit Production from the Naval Petroleum Reserves* | 300 |
| - Insulation Tax Credit Weatherization, and Building Standards* | 135 |
| - Improved auto fuel efficiency** | 100 |
| - Federal Energy Management Program** | 225 |
| - Industrial Conservation Program** | 200 |
| - State/Federal Conservation Program** | 200 |
| - Appliance labeling/efficiency goals** | 10 |
| - Conversion of power plants from oil and gas to coal** | 160 |
| <u>Reduced Vulnerability</u> | |
| - Standby authorities to deal with an embargo** | 500 |
| - Strategic Storage*** | <u>830</u> |
| TOTAL REDUCTION IN VULNERABILITY | 2880 |

*Passed one House or in Conference.

**Enacted

***Strategic storage figures are based on achievement of 150 million barrels of petroleum reserves by the end of 1978.

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TABLE 2

IMPACT OF PRESIDENT'S PROGRAM BY 1985

| | <u>Import Vulnerability Reductions (000 B/D)</u> |
|---|--|
| <u>Energy Supply</u> | |
| - OCS Leasing* | 900 |
| - NPR Production | 935 |
| - Decontrol of Oil** | 1,600 |
| - Deregulation of Natural Gas*** | 2,760 |
| - Synthetic Fuels Commercialization | 350 |
| <u>Energy Conservation</u> | |
| - Federal Energy Management Program** | 260 |
| - Appliance Labeling/efficiency goals** | 220 |
| - Insulation Tax Credit, Weatherization, and Building Standards*** | 450 |
| - Industrial Conservation Program** | 290 |
| - Auto Fuel Efficiency** | 1,000 |
| - State Conservation Plans** | 250 |
| - Decontrol of Oil** | 480 |
| - Utility Load Management** | 300 |
| <u>Emergency Measures to Reduce Vulnerability</u> | |
| - Standby Authorities** | 1,000 |
| - Strategic Storage System** | 2,700 |
| TOTAL VULNERABILITY REDUCTION | 13,495 |

*Administrative Program

**Enacted

***Passed at least one House

more

TABLE 3

Current Status of
President's Legislative ProgramBills that have been enacted:

- Strategic Petroleum Reserve System
- Energy Supply and Environmental Coordination Act (ESECA) Extension
- Energy Efficiency Labeling
- Standby Authorities
- Extension of Price-Anderson Indemnification for nuclear power plants and contractors

Bills that have passed at least one House:

- Naval Petroleum Reserves (in conference)
- Winterization Assistance (passed House)
- Building Energy Conservation Standards (passed House)
- New Natural Gas Deregulation (passed both Houses)
- Emergency Natural Gas Legislation (passed both Houses; awaits conference)
- Insulation Tax Credit (passed House)

Bills that have not passed either House:

- Clean Air Act Amendments
- Utilities Act
- Energy Facilities Planning and Development Act
- Energy Development Security
- Nuclear Fuel Assurance Act
- Nuclear Licensing
- Energy Independence Authority
- Synthetic Fuels Loan Guarantees
- Electric Utilities Construction Incentives Act
- Oil Spill Liability Act
- Legislation to revise the basis for establishing the Government's charge for uranium enrichment services
- Energy Development Impact Assistance Act

New Bill:

- Legislation to expedite delivery of gas from Alaskan North Slope

more

TABLE 4

BREAKDOWN OF FEDERAL ENERGY OUTLAYS - 1976 AND 1977

(outlays in millions of dollars)

| | <u>FY 1976</u> | <u>FY 1977</u> |
|---|----------------|----------------|
| <u>Domestic energy resource development</u> <u>conservation, and petroleum storage</u> | | |
| Energy Independence Authority . . . | - | 650 |
| Uranium enrichment (ERDA) | 874 | 1,216 |
| Naval Petroleum Reserves/ strategic petroleum storage . . . | 11 | 304 |
| TVA and power administrations: | | |
| capital | 1,778 | 1,956 |
| operating | <u>1,772</u> | <u>1,918</u> |
| subtotal | 3,550 | 3,874 |
| Rural electrification loans (REA) | 737 | 849 |
| Department of the Interior support for Outer Continental Shelf and on-shore leasing of oil, gas, and energy minerals . . . | 162 | 185 |
| FEA non-regulatory programs | 169 | 168 |
| Other | 13 | 13 |
| | <u>5,516</u> | <u>7,259</u> |
| <u>Energy research, development,</u> <u>and demonstration</u> | | |
| Direct energy R&D | 1,659 | 2,239 |
| Supporting energy R&D | 506 | 589 |
| Department of the Interior research for coal mine health and safety | 29 | 30 |
| | <u>2,194</u> | <u>2,858</u> |
| <u>Regulation of the industry</u> | | |
| Nuclear Regulatory Commission | 106 | 120 |
| Federal Power Commission | 37 | 41 |
| FEA regulatory programs | 29 | 17 |
| Department of the Interior regulation of coal mines | 62 | 66 |
| | <u>234</u> | <u>244</u> |
| | <u>7,944</u> | <u>10,361</u> |
| TOTAL OUTLAYS | 7,944 | 10,361 |

more

(OVER)

TABLE 5

PRESIDENT'S 1976-1977 ENERGY R&D BUDGET

| Program Activities | (outlays in millions of dollars) | | | | |
|--|----------------------------------|------------|-------------|------------|----------------|
| | FY 1976 | | FY 1977 | | Percent Change |
| | \$ | % | \$ | % | |
| ERDA, total | <u>1412</u> | <u>64</u> | <u>1975</u> | <u>69</u> | <u>+ 40</u> |
| Non-Nuclear, total | (519) | (24) | (710) | (25) | (+ 37) |
| Fossil <u>1/</u> | 333 | 15 | 442 | 15 | + 33 |
| Solar | 86 | 4 | 116 | 4 | + 35 |
| Geothermal <u>2/</u> | 32 | 2 | 46 | 2 | + 44 |
| Conservation | 56 | 2 | 91 | 3 | + 63 |
| Environmental Control | 12 | 1 | 15 | 1 | + 25 |
| Nuclear, total | (893) | (40) | (1265) | (44) | (+ 42) |
| Fusion | 224 | 10 | 304 | 11 | + 36 |
| Fission | 521 | 23 | 709 | 24 | + 36 |
| Fuel Cycle/Safeguards | 59 | 3 | 144 | 5 | +144 |
| Enrichment R&D | 89 | 4 | 108 | 4 | + 21 |
| EPA (Environmental Control) <u>3/</u> | <u>80</u> | <u>4</u> | <u>73</u> | <u>3</u> | <u>- 14</u> |
| NRC (eg., Safety Research). | <u>94</u> | <u>4</u> | <u>116</u> | <u>4</u> | <u>+ 23</u> |
| DOI (Coal and Oil Shale Mining) | <u>52</u> | <u>2</u> | <u>64</u> | <u>2</u> | <u>+ 23</u> |
| Other | <u>14</u> | <u>1</u> | <u>9</u> | <u>--</u> | <u>- 36</u> |
| <u>Total Direct Energy R&D</u> | <u>1652</u> | <u>75</u> | <u>2237</u> | <u>78</u> | <u>+ 35</u> |
| <u>Supporting R&D</u> | | | | | |
| ERDA | <u>373</u> | <u>17</u> | <u>403</u> | <u>14</u> | <u>+ 8</u> |
| EPA | <u>40</u> | <u>2</u> | <u>47</u> | <u>2</u> | <u>+ 18</u> |
| NSF | <u>93</u> | <u>4</u> | <u>139</u> | <u>5</u> | <u>+ 50</u> |
| Total Supporting R&D | <u>506</u> | <u>23</u> | <u>589</u> | <u>21</u> | <u>+ 16</u> |
| <u>Energy Related</u> | | | | | |
| DOI (Coal Mine Health/Safety Research) | <u>29</u> | <u>2</u> | <u>30</u> | <u>1</u> | <u>+ 3</u> |
| <u>GRAND TOTAL 4/</u> | <u>2187</u> | <u>100</u> | <u>2856</u> | <u>100</u> | <u>+ 30</u> |

1/ This category includes R&D on coal, oil, gas, and oil shale.

2/ This category does not include the resource assessment activities of the Department of the Interior.

3/ This category includes programs for coal cleaning and stack-gas cleanup.

4/ In addition, the FY 1977 Budget identifies funds to accelerate the commercialization and demonstration of energy technologies through loan guarantees: Geothermal Resources Development Fund, FY 1977 outlays of \$4.4 million; and Synthetic fuels Commercial Demonstration Fund, FY 1976 outlays of \$3.0 million.