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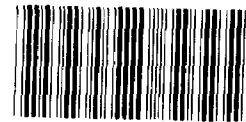
REPORT BY THE
Comptroller General
OF THE UNITED STATES

RELEASED 117377

Analysis Of Federal Energy Roles And Structure

The President has announced his intention to dismantle the Department of Energy and transfer its functions to other Federal agencies. Although this report does not evaluate the President's proposal in detail, it provides a framework for analyzing any possible restructuring of Federal energy activities. It focuses specifically on

- recent energy trends and problems, and the evolution of Federal energy-related agencies;
- the extent to which the Federal Government should be involved in various aspects of energy policy and programs; and
- the Federal Government's organizational structure for dealing with the energy problem.



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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-205424

The Honorable Charles H. Percy
Chairman, Subcommittee on Energy,
Nuclear Proliferation and
Government Processes
Committee on Governmental Affairs
United States Senate

The Honorable Philip R. Sharp
Chairman, Subcommittee on Fossil
and Synthetic Fuels
Committee on Energy and Commerce
House of Representatives

This report describes the nature of the current energy situation and the evolution of Federal energy programs. It discusses the appropriate Federal role in energy policy and programs and various options for structuring the Federal Government's energy role.

This report was prepared at your joint request. At your request, we did not take the additional time needed to obtain agency comments on the matters discussed in this report.

As requested by your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time we will send copies to interested parties and make copies available to others upon request.

A handwritten signature in cursive script that reads "Charles A. Bowsher".

Comptroller General
of the United States

D I G E S T

Although the establishment of the Department of Energy (DOE) in 1977 was a widely accepted organizational approach to solving the Nation's energy problems, numerous questions have been raised about the Department's management and the effectiveness of its operations.

The administration has initiated sharp reductions in many of the Department's programs, and the President has announced his intention to dismantle the Department and transfer its functions to other Federal agencies.

Because of intense and continuing congressional interest in energy and because GAO has performed extensive work in this area, the Chairmen of the Senate Subcommittee on Energy, Nuclear Proliferation, and Government Processes and the House Subcommittee on Fossil and Synthetic Fuels asked GAO to provide its views on (1) recent energy trends and problems, and the evolution of Federal energy-related agencies; (2) the extent to which the Federal Government should be involved in various aspects of energy policy and programs; and (3) the Federal Government's organizational structure for dealing with the energy problem.

Pursuant to the wishes of the requesters' offices, GAO did not seek comments on this report from the Department of Energy and other executive branch agencies mentioned in the report.

THE ENERGY PROBLEM
IS LONG-TERM

GAO believes that energy is a serious, long-term problem with important implications for the Nation's security, economy, quality of life, and international coordination.

Although the Nation's energy posture has improved somewhat over the last few years, progress has been difficult to achieve. The United States remains dependent on expensive and unreliable oil imports. These imports accounted

for about 16 percent of the Nation's energy use in 1980, and the net deficit in fossil fuels trade was over \$70 billion.

Moreover, the Nation's dependence on members of the Organization of Arab Petroleum Exporting Countries increased from 31 percent of crude oil imports before the oil embargo to about 48 percent between 1977 and 1980. Finally, many of this Nation's allies are also heavily dependent on oil imports and are vulnerable to oil supply interruptions.

Further progress will depend on a coordinated approach designed to effect long-term solutions which reduce U.S. reliance on insecure sources of imported oil. (See pp. 4 to 6.)

THE FEDERAL GOVERNMENT
SHOULD MAINTAIN AN
ACTIVE ROLE

The administration has proposed a diminished Federal role and increased private-sector responsibility for energy problems. In line with this proposal, it has begun to prune back sharply the Department of Energy's programs.

GAO agrees that reducing Federal regulation and increasing reliance on the private sector are worthy goals and can help to ameliorate the energy problem. GAO believes, however, that there is a continuing need for a strong Federal role in key areas such as advancing energy supply technologies, and emergency energy preparedness. (See pp. 15 to 26.)

HOW SHOULD FEDERAL ENERGY
EFFORTS BE STRUCTURED?

GAO identifies three broad options for managing Federal programs.

1. The functions of DOE could be decentralized.
2. DOE could be maintained essentially as is, but reduced to a sub-Cabinet agency.
3. Energy activities could retain their Cabinet-level status, either by leaving DOE as is or merging its activities into an existing department.

In examining the broad options for energy organization, one must recognize the inherent difficulties of defining right or wrong answers in organizational structure. GAO work over the years has shown serious problems in energy program management and decisionmaking under both a Cabinet/department organization and an organizational structure in which energy programs were spread among several agencies.

GAO discusses each of the three broad options in the context of fundamental questions the Congress needs to examine, including: (1) what information indicates that program management decisionmaking and coordination would be better under a decentralized structure; (2) how important is a centralized focus on energy; and (3) if a central focus is desirable, what factors argue for Cabinet-level status. Ultimately, choosing among the options requires congressional exercise of political and value judgments about the nature of the energy problem, the "best" organizational structure, and the practicality of fundamental changes in energy organization structure at this time.

Dispersing energy functions

Federal policies for researching, producing, using, or regulating the various forms of energy must be predicated on a recognition of the diverse concomitant effects on foreign policy, finance, industrial and military security, environmental protection, and quality of life in general.

The history of Federal energy efforts demonstrates clearly that obtaining adequate coordination among multiple agencies can be extremely difficult. In a March 1977 report--before the establishment of DOE--GAO concluded that Federal efforts to resolve the Nation's energy problems were hampered by a diffusion of responsibility among several agencies and that this reduced the effectiveness of energy planning and decisionmaking.

Problems in energy programs could be found, however, regardless of the organizational structure, since they often are the result of inadequate program management. GAO, for its part, has been critical of energy program

management and decisionmaking in the years since creation of DOE.

In sum, specific proposals to disperse DOE programs and responsibilities should be examined with particular emphasis on the effects such changes would have on program management and decisionmaking. In addition, given the need for coordination of energy programs, particularly in the case of possible future energy emergencies, information should be sought and careful attention paid to ways in which such coordination would take place.

Instituting a sub-Cabinet-level energy agency

Keeping existing energy programs together and reducing the Department to sub-Cabinet status obviously does not raise the same issues of energy program coordination. Although lacking the prestige and influence of a Cabinet-level department, a sub-Cabinet energy agency would have a clear and consistent mandate to help it carry out energy functions more effectively than agencies having more diverse, conflicting responsibilities. Such an agency, for example, could assign its priorities and devote its resources toward formulating comprehensive energy policies and determining appropriate tradeoffs among technological, economic, political, and environmental aspects of numerous domestic and foreign energy supply options. In addition, it would provide a focus for coordinating energy issues and programs involving environmental and non-energy resource concerns.

The principal point of focus in examining this option is whether the reduced stature is appropriate, given the long-term nature and other national and international implications of energy issues.

Retaining Cabinet-level status

There are no clear-cut criteria for determining which Federal agencies deserve the visibility and prestige inherent in Cabinet status. Key considerations include not only budget and personnel levels, but also the nature of the situation to be addressed and the extent of interagency and international relations

required. Although a sub-Cabinet-level agency for energy would provide a central focus on energy, there are, nevertheless, inherent benefits to placing in a Cabinet-level agency the overall responsibilities for the serious, pervasive, and long-term energy problem--especially since the problem has important international implications.

Cabinet status would help ensure that

--energy problems receive the emphasis they require;

--the energy agency can participate effectively with other executive agencies in addressing policy, budgetary, and programmatic issues; and

--the United States projects to the international community an image that reflects the importance and commitment the Nation attaches to resolving the energy problem.

Moving to disperse DOE's energy activities at this time might fragment programs and relationships that have been developed over the past few years. After the frequent changes over the past decade, perhaps a period of stability would finally permit DOE to devote adequate attention to organization and management.

Merging DOE's programs into an existing department leads to questions about the viability of combining all energy and non-energy natural resource responsibilities. In earlier reports, GAO has suggested the concept of a Department of Energy and Natural Resources, and in 1977--before the creation of DOE--supported DOE's establishment as an interim step toward such a structure. GAO has not recently evaluated the programmatic and cost-effectiveness aspects of such a structure. To make such an analysis would require a specific outline of responsibilities and programs to be included in such a department. (See pp. 27 to 37.)

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As this report was undergoing final processing, the President announced a plan that would essentially divide the current responsibilities

of DOE between the Department of the Interior and the Department of Commerce.

Details of this plan are not yet available. However, GAO has been requested to analyze the specific proposal when it is made public, and expects to report on its analysis in early 1982.

In the meantime, GAO believes the historical perspective and analytical framework provided by the current report will provide a good basis for further discussion and study of the organizational structure for Federal energy programs.

C o n t e n t s

		<u>Page</u>
DIGEST		i
CHAPTER		
1	INTRODUCTION	1
	Objectives, scope, and methodology	3
2	ENERGY TRENDS AND PROBLEMS--AND GOVERNMENT RESPONSES	4
	Energy trends and problems	4
	Evolution of Federal energy institutions	7
3	WHAT IS THE APPROPRIATE FEDERAL ROLE IN ENERGY POLICY AND PROGRAMS?	15
	Evolution of the Federal energy role	15
	Reasons for reexamining the Federal energy role	16
	Views on Federal energy roles	16
	Conclusions	26
4	HOW SHOULD FEDERAL ENERGY ACTIVITIES BE STRUCTURED?	27
	What factors should be considered?	27
	What structure is best for energy activities?	30
	Observations	35

ABBREVIATIONS

DENR	Department of Energy and Natural Resources
DOE	Department of Energy
GAO	General Accounting Office



CHAPTER 1

INTRODUCTION

Energy has been at the center of national and international concern since the October 1973 embargo of oil shipments to the United States and other countries. The embargo forcefully demonstrated the Nation's dependence on imported crude oil and focused our attention on the price and availability of energy. Since then, the energy problem--and our reactions to it--have dramatically affected our economy, quality of life, national security, and international relations.

In economic terms, the oil embargo was a primary contributor to the 1974-75 recession, the deepest economic downturn since the Great Depression of the 1930s. Payments for petroleum and other fossil fuel imports have continued to increase, reaching \$78 billion in 1980. The cost of these imports, which accounted for one-third of the cost of all U.S. imports in 1980, was nearly double the 1978 cost and about 17 times the 1972 cost. The higher energy prices have effected a massive transfer of wealth from energy consumers to energy producers, with profound implications for international finance and development.

Higher energy prices also have brought about drastic changes in the life style of Americans. Increased gasoline prices have changed not only driving habits but also the types of cars produced and the financial health of the companies that produce them. Higher prices for home heating fuel have spurred consumers to turn down their thermostats and buy sweaters, storm windows, and insulation. They also have affected the design and size of residences being built.

In terms of national security, the existence of an "oil weapon" has further complicated geopolitics on a worldwide scale--enhancing the importance of oil producers in the Middle East and elsewhere and weakening the prospects of many developing countries. It also has raised questions about whether the foreign policy of the United States and other nations may bend to accommodate the oil producers.

The world energy market has been characterized by uncertainties and price fluctuations throughout the past decade. Oil prices, inflation aside, were stable in the early 1970s, tripled during the 1973-74 oil embargo, stabilized again between 1975 and 1978, doubled during the Iranian oil shortfall of late 1978 and early 1979, and stabilized again since then.

Despite price trends of the past decade, there is much uncertainty about the future price of oil. The current so-called "glut" in the world petroleum market is one of several factors that suggest a future downward pressure on prices. Other factors include (1) Saudia Arabia's need to maintain high production levels to meet financial obligations; (2) rapid

development of oil outside the Middle East--in Mexico, West Africa, and elsewhere; (3) possible resumption of substantial production by Iran and Iraq; (4) widening use of other energy sources, notably coal and nuclear power; and (5) continuing improvements in energy efficiency.

Other considerations, however, suggest that the current petroleum market is undergoing a hiatus--an interlude before prices increase again. Factors contributing to a continuing upward price trend include (1) reductions in Saudi Arabia's production, now that world oil prices have been unified; (2) a resumption of world economic growth and a concomitant increase in oil consumption; (3) consumer acquiescence to higher price levels; and (4) rising oil purchases as companies reduce their inventories.

Accompanying the discussion over the future of oil prices is continuing concern about the appropriate Federal role in addressing energy problems and the proper organizational structure for developing Federal energy policies. This concern continued throughout the past decade, and responsibilities for energy policy have been restructured many times. When the Carter administration proposed the creation of the Department of Energy (DOE), there was widespread acceptance of the new Department as a logical and effective approach to resolving the Nation's energy problems. However, DOE's establishment has not precluded further reorganization proposals. For example, the creation of the independent U.S. Synthetic Fuels Corporation was one of several major initiatives aimed at complementing or superseding the energy authorities of DOE.

Recently, debate on the Federal energy role and structure has again gained impetus. Major energy programs have been reduced or eliminated, and both the Reagan administration and Members of Congress have made proposals to eliminate DOE.

Advocates of a diminished Federal energy role believe that a more market-oriented approach to energy problems will result in sound policies and a strengthened energy posture. This position is clearly presented in DOE's July 1981 National Energy Policy Plan, which states:

"All Americans are involved in making energy policy. When individual choices are made with a maximum of personal understanding and a minimum of governmental restraints, the result is the most appropriate energy policy."

On the other hand, while recognizing the importance of individual choice, advocates of a strong Federal role in energy believe that energy decisionmaking should be guided by a comprehensive and consistent national energy policy. This position emphasizes the need to provide a focus for developing balanced energy policies and programs and eliminating fragmented and potentially inconsistent approaches to the problem.

OBJECTIVES, SCOPE,
AND METHODOLOGY

We have closely followed the evolution and operation of Federal energy policies and programs, and have reported many times on these topics. Accordingly, the Chairman of the Subcommittee on Energy, Nuclear Proliferation, and Government Processes, Senate Committee on Governmental Affairs, and the Chairman of the Subcommittee on Fossil and Synthetic Fuels, House Committee on Energy and Commerce, asked us to provide our views on

- recent energy trends and problems, and the evolution of Federal energy-related agencies (see ch. 2),
- the extent to which the Federal Government should be involved in various aspects of energy policy and programs (see ch. 3), and
- how the Federal Government's efforts ought to be structured (see ch. 4).

In preparing this report, we relied extensively on our numerous reports on the policies and programs of DOE and other past and current energy organizations. We also reviewed energy trends during the past decade, evaluated legislative initiatives pertaining to energy programs and organizations, and analyzed budget developments relating to DOE and other agencies. We based our budgetary analysis of the Reagan administration's energy initiatives on its proposed revisions to the fiscal year 1982 budget, the July 1981 National Energy Program Plan, and related documents. We did not take into account early reports on the administration's forthcoming fiscal year 1983 budget proposal.

In assessing the desirable Federal energy role, we considered major elements of DOE's energy efforts, treating them in a generic sense rather than attempting to scrutinize each individual fuel type, technology, or program. In assessing the desirable Federal energy structure, we considered the advantages and disadvantages of general forms of organization; however, we did not attempt to review in detail or assess the merits of various proposals to change the current structure. Therefore, while this report provides our general views and observations on energy programs and organizational structures for implementing these programs, it does not provide specific recommendations.

Pursuant to the wishes of the requesters' offices, we did not seek comments on this report from DOE and other executive branch agencies mentioned in the report.

CHAPTER 2

ENERGY TRENDS AND PROBLEMS--

AND GOVERNMENT RESPONSES

World events during the past decade have forcefully conveyed the message that the United States and many of its allies depend heavily on expensive and unstable energy sources. Petroleum and natural gas liquids remain the predominant fuel sources--comprising some 43 percent of worldwide consumption. They account for most of the trade in energy and are the most versatile fuels in serving various uses. Fluctuations in the price of these fuels, however, have had worldwide ramifications affecting the economic and military security of the United States and its allies throughout the world.

This chapter summarizes trends in U.S. energy consumption and production and the resulting import dependence of the Nation. It also outlines the evolution of Federal energy institutions that have been created in response to energy trends.

ENERGY TRENDS AND PROBLEMS

Thirty years ago, the United States produced about as much energy as it consumed. Since then, however, the Nation has consistently used more energy than it has produced. The widening gap between energy supply and demand was filled through imports, at a substantial cost to the Nation's security, economy, and quality of life. By the end of the last decade, for example, the Middle East oil exporting countries had demonstrated their ability--and willingness--to limit critical supplies. The United States had a net fossil fuels trade deficit in 1980 of over \$70 billion--an increase of over \$64 billion since 1973--and the Nation was preparing for national emergencies that could be precipitated by supply disruptions resulting from wars, embargoes, and other factors beyond its control.

The U.S. energy consumption pattern generally reflects the rate of growth in the Nation's economy. While the economy grew considerably between 1953 and 1973, U.S. energy consumption more than doubled. (See table 1.) Since the oil embargo of 1973-74, the economy has grown more slowly, and increases in energy consumption have been marginal.

U.S. energy production followed a similar pattern in the years following 1953, but it did not keep pace with increases in consumption. In 1953, the Nation produced more energy than it used. In the 1960s, however, energy consumption began to increase substantially beyond the amount being produced. By 1973, the production level of domestic energy resources met less than 84 percent of the country's energy needs. Moreover, while the Nation continued to use more energy, production levels decreased in the mid-1970s. Although production increased again toward the end of

Table 1

U.S. Energy Indicators, Selected Years

	<u>1953</u>	<u>1963</u>	<u>1973</u>	<u>1977</u>	<u>1980</u>
Consumption (quads) (notes a and b)					
Industrial	16.7	20.5	29.5	29.0	30.3
Transportation	9.6	11.6	18.5	19.7	18.6
Residential/commercial	<u>10.5</u>	<u>16.5</u>	<u>26.6</u>	<u>27.6</u>	<u>27.4</u>
Total (note c)	<u>36.8</u>	<u>48.6</u>	<u>74.6</u>	<u>76.3</u>	<u>76.3</u>
Production (quads) (note a)					
Petroleum and natural gas liquids	14.7	17.7	22.1	19.8	20.5
Natural gas	8.4	14.5	22.2	19.6	19.7
Coal	12.7	12.2	14.4	15.8	18.9
Hydropower	1.4	1.8	2.9	2.3	2.9
Nuclear	-	(d)	0.9	2.7	2.7
Geothermal, wood, and waste (note e)	-	(d)	(d)	0.1	0.1
Total (note c)	<u>37.2</u>	<u>46.2</u>	<u>62.4</u>	<u>60.3</u>	<u>64.8</u>
Trade (quads) (note a)					
Total imports	2.3	5.1	14.7	20.1	15.8
Petroleum	2.3	4.6	13.5	18.8	14.4
Total exports	1.9	1.8	2.1	2.1	3.8
Net imports	0.5	3.2	12.7	18.0	12.0
Value of net trade in fossil fuels (billions of current dollars)	+0.3	-\$1.0	-\$6.4	-\$40.0	-\$70.7

a/A "quad" means a quadrillion British thermal units. A quad represents the energy value obtained by burning about 500,000 barrels of crude oil each day for a year.

b/Electricity distributed among end-use sectors.

c/Details may not add to totals due to rounding.

d/Less than 0.05 quads.

e/Wood, refuse, and other vegetal fuels consumed by electric utilities.

Data do not include the consumption of wood derived fuel (other than that consumed by the electric utility industry) which amounted to an estimated 2 quads in 1979. Data also exclude small quantities of other energy forms for which consistent historical data are not available, such as solar energy obtained by the use of thermal and photovoltaic collectors; wind energy; and geothermal, biomass, and waste energy other than that consumed at electric utilities.

Source: Energy Information Administration, 1980 Annual Report to Congress, Volume Two: Data, DOE/EIA-0173 (80)/2, 1981.

that decade, the Nation's 1980 energy production level was less than 4 percent higher than the 1973 level.

The last decade also brought a reversal in the production pattern of key types of energy. U.S. production of its primary energy resources--petroleum, natural gas, and natural gas liquids--decreased by nearly 10 percent from 1973 through 1980. This decrease, however, was more than offset by increased production of coal and nuclear power, which increased by over 40 percent during the same period.

To compensate for energy production levels that have not kept pace with consumption, the United States has continued to rely on imports--mostly in the form of petroleum and refined products. In 1953, the country's net energy imports represented less than 2 percent of the energy consumed. By 1973, net imports had climbed to over 17 percent of the consumption level, and the percentage increased to about 24 percent by 1977.

Reflecting increased U.S. production and stable consumption, the volume of net imports dropped by one-third between 1977 and 1980. Nevertheless, the increased cost of the imports caused the net trade deficit for fossil fuels to increase to over \$70 billion during 1980. This amount is \$30 billion more than the 1977 level, when the volume of energy imports was at its peak, and is over \$64 billion more than the level in 1973, when the oil embargo turned the Nation's attention to its energy problem.

Moreover, the Nation has become more dependent since 1973 on imports from members of the Organization of Arab Petroleum Exporting Countries. In September 1973--before the oil embargo--the United States obtained 31 percent of its crude oil imports from these countries. By 1977, the percentage had increased to 48 percent and remained at about that level through 1980.

Many of our allies are also heavily dependent on oil imports and are vulnerable to oil supply interruptions. Should Europe or Japan be cut off from oil, their prosperity and stability could be jeopardized.

As the Nation moves into the 1980s, energy consumption and production patterns are not expected to change quickly or dramatically, and foreign sources will be relied upon to meet future supply and demand imbalances. However, unlike the situation in the early 1970s, the country has a better awareness of the long-term nature of the energy problem and has initiated a response to it. For example, the Strategic Petroleum Reserve, conservation measures, the expanded use of coal resources, and research and development of various energy resources provide the Nation with some sense of security and well-being for the future.

EVOLUTION OF FEDERAL ENERGY INSTITUTIONS

The rapid pace of energy developments during the past decade has been accompanied by frequent changes in the number, structure, and responsibilities of Federal energy agencies. Although the creation of DOE in 1977 was widely accepted as the culmination of efforts to consolidate Federal energy responsibilities, the evolution of these efforts continues.

Events leading to DOE's creation

At the time of the 1973-74 oil embargo, most of the Government's energy functions were carried out by four separate agencies. The Department of the Interior was responsible for managing the leasing and development of Federal lands and for marketing hydroelectric power from Federal dams. The Atomic Energy Commission was responsible for nuclear energy research and development, health and safety regulation of commercial nuclear powerplants, and production of nuclear material for weapons. The Federal Power Commission regulated certain aspects of the natural gas and electric power industries. The Tennessee Valley Authority was responsible for developing hydroelectric and other energy sources for its service area and for related economic development activities.

In response to the oil embargo, Federal energy responsibilities were restructured in 1973, and in 1974, the Federal Energy Administration Act, 15 U.S.C. 761 (1976), created a new agency which quickly became the focal point for Federal energy programs. Although the Federal Energy Administration was created to manage the short-term aspects of the Nation's energy crisis, its functions proved to be necessary, and it became the primary agency responsible for developing energy policy, regulating crude oil and petroleum production price and allocation, developing and promoting energy conservation programs, and collecting energy data.

The responsibilities of the Atomic Energy Commission were reorganized, pursuant to the Energy Reorganization Act of 1974, 5 U.S.C. 5313 (1976). To avoid possible conflicts between managing Federal nuclear energy programs and regulating the commercial nuclear industry, the Commission's responsibilities were transferred to two new agencies in 1975. The Energy Research and Development Administration was given responsibility for energy technology research, development, and demonstration and for nuclear weapons production. The Nuclear Regulatory Commission was charged with regulating the commercial nuclear industry.

By the mid-1970s, the proliferation of Federal energy agencies had led to various proposals to reorganize and consolidate their functions. The most important of these proposals was made in March 1977 by the Carter administration and resulted in the Department of Energy Organization Act, enacted by the Congress in August 1977, 42 U.S.C. 7101 (Supp. 1977).

Under the act, the basic functions of the Energy Research and Development Administration and the Federal Energy Administration were centralized within DOE. The new Department also assumed the Interior Department's responsibilities for establishing policies and certain economic regulations for the development of energy minerals on Federal lands and took control of the power marketing administrations. The act also established, as an independent agency within DOE, the Federal Energy Regulatory Commission, which assumed many of the Federal Power Commission's responsibilities for natural gas and electric power regulation. In effect, the act provided for (1) a Federal energy policy framework within a Cabinet-level department, (2) a clear focus on energy policy and programs, and (3) a central staff capability to analyze a wide range of energy issues.

Federal energy spending and personnel levels

Federal spending for energy and related functions increased steadily during the past decade. Even before DOE was created, spending by its predecessor agencies increased from less than \$3 billion in fiscal year 1973 to \$6.7 billion in fiscal year 1977. DOE's net budget authority has fluctuated between \$10 and \$11 billion between fiscal years 1978 and 1981. The estimated level in fiscal year 1981 was \$10.5 billion.

Employment in DOE's predecessor agencies also grew between 1973 and 1977 but at a much slower pace. DOE's major predecessors had about 10,000 positions in fiscal year 1973 and about 15,100 positions in fiscal year 1975. When DOE began operations in October 1977, it had 19,109 employees. DOE's personnel level as of September 1981 was about 19,600--a small increase over the 1977 level--but reductions are likely. Also, about 3,500 persons worked for the Nuclear Regulatory Commission.

In addition to DOE's employees, many persons are employed by facilities that perform work under contract to DOE. In 1980, DOE administered over 28,800 prime contracts with private firms, universities, State and local governments, and others. In that year, the value of the contracts awarded was approximately \$9.5 billion, and over 111,000 people were employed by the facilities conducting the work. Among these facilities are 12 Government-owned laboratories that conduct research and development in basic sciences, in a variety of energy technologies, and in the military applications of nuclear energy. In 1980, the laboratories employed 49,647 people.

While DOE remains the largest Federal energy agency, substantial funding is provided to other agencies to carry out key energy functions. Moreover, much of DOE's budget is devoted to non-energy functions. Of DOE's fiscal year 1981 estimated gross

budget authority of \$12.7 billion, 1/ \$8.4 billion, or about 66 percent, was for energy-related activities. Included in this total were

- \$4.0 billion for energy supply, including research, development, demonstration, and commercialization of energy technologies and direct production of energy;
- \$3.3 billion for emergency energy preparedness, primarily the purchase and storage of oil in the Strategic Petroleum Reserve;
- \$0.6 billion for energy conservation;
- \$0.3 billion for energy information, policy, and regulation; and
- \$0.2 billion for departmental administration. 2/

Of DOE's \$4.3 billion budget for non-energy activities, nearly \$3.7 billion went to atomic energy defense activities, and over \$500 million went to general science and basic research.

In fiscal year 1981, eight other Federal entities had estimated budget authority of over \$700 million--about 8 percent of all energy-related funding, as categorized by the Office of Management and Budget. Major authorizations included the following:

- The Nuclear Regulatory Commission had authority of \$452 million for regulating the nuclear power industry.
- The Department of the Interior had authority of \$107 million for exploration of the National Petroleum Reserve in Alaska.
- The Environmental Protection Agency had authority of \$96 million for its energy-related environmental research and development programs.

DOE'S overall performance

In its first 4 years, DOE has received a great deal of criticism from the Congress, private industry, and individual

1/Although DOE's estimated gross budget authority was \$12.7 billion, offsetting receipts--from sales of oil from the Naval Petroleum Reserves and other sources--reduced the level of net budget authority to \$10.5 billion.

2/The total estimated budget authority of \$283 million for departmental management was divided on a pro rata basis between energy and non-energy activities.

citizens. We also have been critical of the management and organization of many DOE programs and have called for major improvements in the planning and implementation of energy policies and programs. In numerous reports on DOE's activities, we have noted problems in program planning and management, interagency relations, and accounting and financial management.

We recognize, however, that DOE has faced serious obstacles to carrying out its responsibilities and that there have been some accomplishments. ^{1/} The most obvious problems confronting the new DOE were related to the basic managerial difficulties involved in trying to meld together, from several diverse organizations, a major new Cabinet-level department. These problems are inherent in the development of a new Federal agency and were experienced earlier by other new agencies.

DOE's early problems were exacerbated because its high-level officials had to divide their time and attention between getting the Department organized and shepherding the National Energy Plan through the Congress. Legislation to establish DOE was introduced in March 1977. Only a month later, the plan was unveiled. The Department began operations in October 1977. However, not until November 1978 were major elements of the plan enacted into law.

No sooner had this happened, a series of significant energy developments required reaction from the Department. For example, from late 1978 through mid-1979, the Nation experienced the Iranian oil shortfall, limited availability of gasoline supplies, and a major accident at the Three Mile Island nuclear powerplant.

Another obstacle to the new Department was related to the nature of the energy problem. During the late 1970s, the American public did not readily accept the seriousness of the problem. In fact, many Americans were skeptical that energy was a major problem. Moreover, energy decisions typically involve diverse interests that often are difficult to reconcile. For example, the interests of energy producers must be reconciled with the interests of energy consumers, choices must be made between using less energy or paying higher prices for more energy, and energy considerations must be balanced with environmental, economic, social, and foreign policy considerations. Also, the long-term nature of the energy problem and the long lead time required to implement solutions often mean that decisions made today will not show results for several years or more.

^{1/}We testified in 1979 on the difficulties confronting DOE and on DOE's performance in its first 2 years. See Statement of Elmer B. Staats before the Senate Committee on Governmental Affairs, July 24, 1979, on "Oversight of the Department of Energy."

In addition to these problems, some DOE programs were, by their nature, difficult to administer. A notable example was the gasoline allocation program, which was established by the Emergency Petroleum Allocation Act, 15 U.S.C. 751 (1976), in November 1973 in the wake of the oil embargo. The act directed the President to issue regulations to control the allocation and selling price of crude oil and refined petroleum products, including gasoline. At the time of the gasoline shortages of 1979, DOE was ill-prepared to manage the unrelenting workload created by this program. However, even under the best of circumstances, obstacles to implementing the ambitious program would have been formidable. In a report on DOE's management of the gasoline allocation program, we noted both problems in performance and the need to develop a workable program to be available in the event of future supply interruptions. 1/

Despite its well-publicized shortcomings, DOE has made progress in some key areas. For example, much has been done through the Energy Information Administration to alleviate serious energy information shortcomings that were underscored during the 1973-74 oil embargo. The shortcomings contributed significantly to confusion and even skepticism about the Nation's energy problems.

DOE's acquisition of oil for the Strategic Petroleum Reserve also has improved recently. The Reserve, authorized in 1975, was to be an important defensive weapon to discourage, or at least to ameliorate, an oil embargo. The concept encountered many problems in its early days and fell far short of its original goals. However, in the Energy Security Act, P.L. 96-294, to be codified at 7 U.S.C. 341, the Congress required that the Reserve be filled at a rate of at least 100,000 barrels a day, and over 210 million barrels of oil are now in storage. Finally, DOE's power marketing administrations are taking a larger role in regional energy conservation programs and activities.

Developments after creation of DOE

Even though DOE's establishment in 1977 represented the culmination of efforts to consolidate many Federal energy activities, the evolution of Federal energy institutions has continued, spurred in part by publicity about DOE's shortcomings. Developments since 1977 include the creation of a new organization to oversee production of synthetic fuels, changes in interagency groups to coordinate energy policies, a mandated review of DOE's

1/"Gasoline Allocation: A Chaotic Program in Need of Overhaul," EMD-80-34, Apr. 23, 1980. Legislative authority for the allocation program expired in September 1981. Although the administration did not seek to continue the authority, both the Senate and the House of Representatives have moved to give President such authority.

programs, and proposals to dismantle or otherwise alter DOE. DOE cannot be dismantled unless the Congress passes legislation to do so.

In June 1979, less than 2 years after DOE was formed, the Carter administration proposed the creation of an Energy Mobilization Board to expedite planning and construction of critical energy projects and an Energy Security Corporation to spur development of synthetic fuels. Although the proposal to establish the Mobilization Board did not come to fruition, in June 1980 the Congress enacted the Energy Security Act, which authorized off-budget establishment of the U.S. Synthetic Fuels Corporation to develop a comprehensive strategy for increasing the Nation's synthetic fuels production. 1/

In February 1981, a Cabinet Council on Natural Resources and Environment was formed as the latest in a series of groups established over the years to coordinate Federal energy policy. It is one of five such Councils which are designed to operate as subgroups of the Cabinet.

An Energy Resources Council was established in the Executive Office of the President in 1974, pursuant to the Energy Reorganization Act of 1974. Its members included the heads of the Departments of the Interior and State, the Federal Energy Administration, the Energy Research and Development Administration, and the Office of Management and Budget. One of its primary functions was to "ensure communication and coordination" among the Federal agencies with responsibilities for developing and implementing energy policy or managing energy resources. The Council was eliminated in 1977 by the DOE Organization Act.

However, in September 1978, former President Carter established an Energy Coordination Committee. The Secretary of Energy was designated as the Committee's Chairman, and its membership included the heads of 11 Federal departments and the Office of Management and Budget. Among the Committee's key functions is the responsibility to ensure that there is sufficient communication and coordination among Federal agencies concerning energy policy and the management of energy resources. Although the Committee is still in existence, we were informed that it has not met during 1981.

1/Although Federal Government appropriations to the Synthetic Fuels Corporation are included in the budget's totals, the Corporation's account is off-budget. We oppose the off-budget placement of Federal activities, because such treatment reduces the budget's comprehensiveness and usefulness as a tool for reviewing Federal activities and setting spending priorities. For a further discussion, see "Federal Budget Totals Are Understated Because of Current Budget Practices," PAD-81-22, Dec. 31, 1980.

The new Cabinet Council on Natural Resources and Environment includes the Secretaries of Agriculture, Energy, Housing and Urban Development, the Interior, and Transportation; the Attorney General; and ex officio, the Vice President and two senior White House officials. The President is the Chairman; the Chairman pro-tempore is the Secretary of the Interior. The Council's activities are not a matter of public record, according to its executive secretary, because they are designed to formulate advice for the President. However, the Council has reportedly considered such issues as decontrol of natural gas prices, energy emergency preparedness, and coal slurry pipelines.

The administration is currently preparing a report on DOE's programs, pursuant to title X, the "Sunset Provisions," of the DOE Organization Act, which requires that the President prepare and submit to the Congress a comprehensive review of each DOE program by January 15, 1982. The title lists 14 requirements for the review, including

- an identification of program objectives,
- an assessment of program accomplishments,
- projections of the needs for the program and impacts of alternative funding levels, and
- recommendations for transitional requirements that would occur if the program were discontinued.

DOE began planning for its title X sunset review in late 1980. In January 1981, the Secretary of Energy stated that the title X process should allow for a responsible determination of the best form and structure for energy activities within the Federal Government. Initial guidance on review implementation and organizational responsibilities was sent to the Assistant Secretaries responsible for departmental programs in June 1981. Since then, DOE program offices have drafted individual program summaries that include information on program goals, objectives, and accomplishments. However, it is the President and not DOE that is required to submit the sunset report, and DOE's program summaries are subject to the review and approval of the Office of Management and Budget.

Furthermore, the President announced his intention in September 1981 to abolish DOE. A final proposal is expected by January 15, 1982.

In addition, several bills have been introduced in the 97th Congress which would abolish or dismantle the Department. However, even before the President has submitted the "sunset" report to the Congress or announced the specifics of his proposal to dismantle DOE, and before any of the proposed bills has been acted on, both the thrust of certain energy programs and the structure for implementing them are being affected. These changes are the result

of

- proposed budget reductions;
- delays in filling top management vacancies; and
- reductions in force, personnel downgradings, and attendant actions.

Legislation would be required to dismantle DOE because the Secretary of Energy cannot do so, and the President's reorganization authority has lapsed. Of course, the President has the prerogative to make legislative proposals calling for reorganization of Federal responsibilities.

Although the Secretary has authority to "establish, alter, consolidate or discontinue such organizational units or components within the Department as he may deem necessary or appropriate," this authority does not extend to abolishment of organizational components which were specifically established by the DOE Organization Act. These components include the Federal Energy Regulatory Commission, Energy Information Administration, Economic Regulatory Administration, Office of Inspector General, and Office of Energy Research. However, the Secretary used his authority to reorganize DOE's functions and field structure in February and April 1981, respectively.

A more general type of reorganization authority was granted to the President under the Reorganization Act of 1972, as amended. This legislation, which expired in April 1981, provided the President broad authority to reorganize Federal agencies without proposing additional legislation. In June 1981, the Senate voted to extend the President's reorganization authority; however, the House has yet to act on a companion bill. The bill passed by the Senate would allow the President to create new agencies within an existing department; however, it would not allow the President to create or abolish a Cabinet department, nor to establish a new agency outside the jurisdiction of an existing entity.

CHAPTER 3

WHAT IS THE APPROPRIATE FEDERAL ROLE IN ENERGY POLICY AND PROGRAMS?

During the past decade, the United States moved from one energy crisis to another. The emergencies included the fuel and propane shortages in 1972, the Arab oil embargo in 1973-74, the coal strikes in 1974 and 1977-78, the natural gas shortage during the 1976-77 winter, and most recently, the cutoff in oil exports from Iran. These events brought about a torrent of legislation which now seems to be abating.

As the Federal energy effort moves beyond policy formulation to program management, it is appropriate to reexamine the Federal Government's energy role. This chapter traces briefly the evolution of the Federal role, describes the recent surge of interest in reexamining that role, and discusses the administration's position and our views on major elements of DOE's energy programs.

EVOLUTION OF THE FEDERAL ENERGY ROLE

Energy did not play a prominent role in Federal policy and programs before the oil embargo in 1973. Following the embargo, as the public and the Government grappled with energy problems, the Congress passed dozens of laws that relate in whole, or in part, to energy and established a far-reaching set of energy policies. These laws, which relate to virtually the entire spectrum of energy issues, form the basis for multitudinous Government programs for carrying out national energy policies.

By the end of 1980, the network of energy legislation encompassed the

- promotion of many energy supply options through research, development, demonstration, and commercialization efforts; loans and loan guarantees; tax benefits; and leasing of Federal minerals;
- promotion of energy conservation through grants, tax credits, energy use standards, and other means;
- energy emergency preparedness measures, including a national oil stockpile and oil and natural gas allocation programs;
- formulation of energy projections and plans;
- gathering of credible and complete energy information; and
- regulation of oil and natural gas prices, coal and natural gas use, and health and safety of commercial nuclear facilities.

REASONS FOR REEXAMINING THE FEDERAL ENERGY ROLE

In the 1970s, the Government's energy priorities were to analyze the Nation's energy situation, determine the policies that would be appropriate, and design programs to implement those policies. Currently, however, there is widespread interest in reexamining carefully what the Federal Government should do to address the Nation's energy problems. Therefore, the focus of the Government's energy activities has shifted from enacting legislation and establishing new programs to examining existing policies and programs.

Dissatisfaction with certain DOE programs has contributed to this change in emphasis. Also, improvement in the Nation's energy posture has raised questions about whether extensive Federal efforts are still necessary. Other factors contributing to interest in the Federal energy role include the President's current comprehensive "sunset" review of DOE's activities and, in particular, the administration's energy policy, which differs sharply from that of the three preceding administrations.

Whereas the predecessor administrations moved to consolidate, strengthen, and expand the Federal energy role, the current administration seeks to diminish the Federal role and to lower or eliminate funding for energy programs to reduce Federal spending and reduce the Nation's budget deficit. In the administration's view, these actions will help to revitalize the economy and ultimately bring about improvements in the Nation's energy posture.

VIEWS ON FEDERAL ENERGY ROLES

Even among those who recognize the extent and long-term nature of the energy problem, there are wide differences of opinion about the appropriate Federal role in formulating and implementing energy policies. This section discusses major elements of DOE's energy efforts, treating them in a generic sense rather than attempting to scrutinize each individual fuel type, technology, or program. It provides, as appropriate, the administration's position and our views on key aspects of DOE's efforts related to energy supply, conservation, emergency preparedness, economic regulation, and information.

Energy supply

Advancing new energy technologies

A major thrust of the energy policies developed in recent years is to advance new energy technologies which could replace imported oil. The technologies include a broad variety of energy sources--including better ways of using coal and other fossil fuels, improvements in nuclear power generation, and promotion of solar and other renewable technologies.

Federal efforts in place at the end of 1980 ranged from basic research to working toward the introduction of new technologies in commercial enterprise. Although distinctions between the various stages of these efforts are not precise, the following terms generally apply to the efforts:

- Research, or establishing scientific feasibility.
- Development, or establishing engineering feasibility.
- Pilots and demonstration, or constructing and operating small and intermediate-sized plants to show that processes and systems function properly.
- Commercialization, or building commercial-sized plants, verifying cost parameters, and proving that large-scale operations are economically feasible.

To promote advances in these stages, the Government has been able to fund the entire cost of projects or share the costs with industry through grants and cooperative agreements, lend money or guarantee loans, and provide tax incentives. Whereas previous administrations generally supported a steadily increasing level of funding for these efforts, the current administration has reduced funding sharply for most energy supply technologies, although it has increased Federal support for nuclear power technology.

The administration's general view is that principal reliance should be placed on private market forces to promote advances in near-term energy supply technologies and that the Government's appropriate role is in the area of long-term research and development. As the long-term efforts move closer to commercialization, the administration believes the Federal role should be curtailed and private industry should assume responsibility for near-term activities, such as construction and operation of pilot and demonstration plants. In line with this philosophy, the administration has moved to revamp DOE programs for advancing new energy supply technologies. For example, near-term research and development programs for some proven solar and fossil technologies are being eliminated, and programs to provide loans or loan guarantees to help commercialize solar and geothermal energy are being reduced or eliminated.

We generally agree with the administration's view that it is preferable to have the private sector carry out activities to promote new technology. However, we are concerned that the funding for certain projects may be eliminated so abruptly that the benefits of partially completed projects may not be fully realized. We also believe that there are national security implications that need to be more fully considered before eliminating Government efforts to further breakthroughs in technologies which are not yet cost-effective for industry to sponsor but which offer substantial possibilities for reducing U.S. reliance on imported energy sources. Such implications were the primary justification

for the synthetic fuels program, as well as for other programs to spur energy activity where private market forces and tax incentives may not have been adequate. We are also concerned that:

- There is not an adequate distinction between "long-term, high-risk, and high-payoff" research and development projects and other types of projects.
- The willingness of private industry to undertake demonstration projects may have been overstated.
- The financial incentives that can be offered to private sponsors of energy technology projects may also have been overestimated.

Although the administration has said that it will support only "long-term, high-risk, and high-payoff" research and development programs, we reported in August 1981 that DOE had not defined these terms. We recommended, therefore, that such definitions be established and used consistently in determinations on funding for current and future research and development projects. ^{1/} In response to this report, DOE acknowledged that it does not have precise definitions for identifying the projects that are within the scope of its research and development program. Nevertheless, DOE stated that (1) "drawing a precise boundary line" is difficult, (2) the scope of its research and development will vary based upon many considerations, and (3) decisions on which projects to fund are best left to its program managers responsible for the projects.

Although we recognize the difficulties of making distinctions among the status, risks, and potential profitability of the projects, we continue to believe that such distinctions are necessary to ensure that Federal funding is applied consistently in accordance with established, uniform standards. Also, we believe that, in its attempts to distinguish between near-term and long-term technologies, DOE may have given too little attention to the actual status of a technology, as distinguished from the type of funding it has received. For example, although the Government has supported research, development, and pilot plants for certain coal gasification technologies for 10 years, our current work suggests that the plants have brought few answers about actual commercialization. Because the Federal Government has already supported these pilot plants, the administration categorizes the technology as near-term and does not think it warrants continued Federal support. However, because important questions remain to be answered, it is questionable that private industry will be willing to risk substantial amounts to advance the technology further.

In addition, private industry's willingness and ability to advance energy supply technologies may have been overestimated.

^{1/}"Unresolved Issues Resulting from Changes in DOE's Synthetic Fuels Commercialization Programs," EMD-81-128, Aug. 17, 1981.

Both the cost and the risk involved in many projects is extremely high, and two of our recent reviews raise questions about the potential private sector role.

--We examined the electric utility industry's support for several fossil and renewable technologies. We found that the industry supports some research and development but will not undertake demonstration projects on its own, for various reasons. These include the nature of regulation to which the industry is subject and the industry's financial problems. 1/

--We also examined the status of a project for advancing the use of high-temperature hydrothermal resources (a form of geothermal energy). We found that elimination of Federal funding could cause the project to be terminated and would likely impede the timely development and widespread use of hydrothermal resources. 2/

Moreover, the continued availability of tax benefits designed to encourage the private sector efforts to conserve energy and expand the use of renewable energy resources is also in doubt. Recognizing that uncertainty about the continued availability of the benefits can reduce their effectiveness, both the Senate and the House of Representatives have passed a resolution to the effect that the tax code provisions "which provide incentives for energy conservation and development of renewable energy sources should not be repealed or amended to reduce such incentives." 3/ Even though the administration has supported the tax benefits, they are currently being studied by the Treasury Department, and the administration could move to reduce them as part of its effort to balance the Government's budget.

Our final comment on the administration's position regarding Government support for promoting energy technology relates specifically to synthetic fuels. Although DOE's efforts in support of demonstration plants to expand the use of these fuels have been curtailed, the Government could continue its efforts in support of demonstration plants for these fuels through the Synthetic Fuels Corporation. However, support may not be forthcoming, for two reasons. First, the Energy Security Act that established the Corporation gives lower priority to joint venture funding for demonstration projects than to other available incentives for commercial-scale projects. Moreover, the act established very ambitious

1/"Analysis of Federal Funding for Electric Utility R&D Projects," EMD-81-145, Sept. 28, 1981.

2/"Elimination of Federal Funds for the Heber Project Will Impede Full Development and Use of Hydrothermal Resources," EMD-81-110, June 25, 1981.

3/See S.Res. 232 and H.Res. 243.

production goals equivalent to 500,000 barrels of oil per day by 1987 and 2 million barrels per day by 1992. Considering these goals, sponsors of demonstration plants may not be able to compete for Corporation funding with sponsors of projects using commercially available, first generation technologies.

Leasing of Federal lands

The Federal Government owns about one-third of the Nation's land area. This includes a sprinkling of land in the East and the Midwest, large sections of the West, and nearly all of Alaska. The offshore Outer Continental Shelf is also within the Federal domain. These areas are estimated to contain about one-half of the Nation's remaining energy resources.

Increased dependence on unstable and expensive foreign energy sources has produced great pressure on the Government to open up more Federal lands to energy exploration and production. Primary targets are western coal, and oil and gas in Alaska and the Outer Continental Shelf. However, prudent long-term management of these resources will require proper consideration of national energy needs, as well as environmental, land-use, and socioeconomic concerns and an adequate financial return to the public. Striking a proper balance between these goals has proved to be a formidable task, causing the leasing of Federal energy resources to proceed slowly during the 1970s.

However, the expedited use of Federal lands is receiving renewed attention. The administration is moving more aggressively to open up these lands for exploration, development, and production. There is increased interest in the revenues generated--an estimated \$9.7 billion in fiscal year 1981--and plans are underway to devolve more responsibility for using the lands to State and local governments and to the private sector.

Although the DOE Organization Act gave DOE a role in planning and regulating Federal leasing activities, DOE's role has been curtailed. The administration has proposed an end for funding DOE's Leasing Office, the interagency DOE/Interior Leasing Liaison Committee has not met in more than a year, and the staff of the DOE Leasing Office has been sharply reduced.

This administration has moved to increase the leasing of Federal energy minerals, but there was concern about the previous administration's efforts in this area. Because energy produced on Federal lands can make an important contribution to domestic energy supply, national energy goals should be adequately considered by Interior in leasing and managing Federal energy minerals.

Power marketing

The five power marketing administrations within DOE, which serve portions of nearly all States except those in the Northeast, market hydroelectric power produced by dams operated by

the Corps of Engineers and the Interior Department's Bureau of Reclamation. In addition, most of the dams are multi-purpose facilities used for flood control, irrigation, fisheries, and recreation. These administrations can significantly affect regional economic and energy patterns through decisions on the allocation and price of hydroelectric power.

In recent years, the power marketing administration have moved to take a larger role in regional energy conservation activities. Our reports on the Bonneville and Western Area Power Administrations have supported this effort, which in the case of Bonneville was embodied in the Pacific Northwest Electric Power Planning and Conservation Act, 16 U.S.C. 839.

Energy conservation

By the end of 1980, the Federal Government had established a wide-ranging series of programs to encourage energy conservation. These included tax credits for individuals and businesses, grants for schools and hospitals, weatherization assistance for low-income households, assistance to State energy conservation programs, technology advancement, information dissemination, energy use standards, and other efforts.

Although we support the Reagan administration's efforts to reduce certain energy conservation efforts, we have reservations about some of the reductions and disagree with others. As we stated in our June 17, 1981, report, 1/ we believe that neither the administration nor its predecessors have had an appropriate framework to guide their decisions in selecting Federal initiatives in the energy conservation area. Following are our views on the administration's actions on selected conservation measures:

--We agree with the administration's decision to continue weatherization assistance to low-income households. This program can help reduce the energy costs of the Nation's 12 million low-income households and help reduce overall energy use. We were concerned that the administration's proposal to consolidate this program with other community development efforts might dilute the program's focus and effectiveness, 2/ but the Congress has not adopted the proposal.

--We agree with the administration on the need to continue energy conservation grants to schools and hospitals.

1/"Views on Energy Conservation and the Federal Government's Role," EMD-81-82, June 17, 1981.

2/"Options for Establishing an Energy Conservation Consolidated Grant Program," EMD-81-115, July 8, 1981.

However, we believe that the program could be more effective by continuing to provide relatively inexpensive energy audits for schools and hospitals which want and can benefit from them. 1/

--We have reservations about the administration's proposals to terminate completely efforts to develop and implement energy use standards for buildings and appliances. While a mandatory building standards program may not be justified at this time, a voluntary program could serve as a benchmark for the building community. 2/ With respect to appliance standards, our work suggests that unresolved issues in the standards development process need to be addressed to ensure that decisionmakers have a reasonable basis to make judgments on the appropriateness of standards. 3/

--We agree with the administration's plans to eliminate many information dissemination activities. While we have found that general information programs appear to contribute little to meeting residential consumers' information needs, we have also found that comprehensive, on-site energy audits--as provided by utility companies through the Residential Conservation Service Program--can be highly effective. 4/

--Although the administration's proposed fiscal year 1982 budget supported continuation of energy conservation tax credits, the Treasury is reviewing these credits, reportedly with the intention of scaling back the credits. We share the administration's concern that such benefits be analyzed closely to ensure that they contribute effectively to energy conservation. However, our current work suggests that available information does not provide a solid base for determining the effectiveness of energy tax credits.

--With respect to Federal sector efforts, the Federal Government--as the largest and most visible energy consumer--has a unique opportunity to save significant amounts of energy in its facilities and operations and to reduce its

1/"The Energy Conservation Program for Schools and Hospitals Can Be More Effective," EMD-81-47, Mar. 23, 1981.

2/"Improved Data and Procedures Needed for Development and Implementation of Building Energy Performance Standards," EMD-81-2, Dec. 23, 1980.

3/"Preliminary Information on Appliance Energy Labeling and Appliance Efficiency Standards," EMD-81-122, July 20, 1981.

4/"Residential Energy Conservation Outreach Activities--A New Federal Approach Needed," EMD-81-8, Feb. 11, 1981.

expenditures for energy. Although we endorse the administration's intention to continue the Federal Energy Management Program, much more top management attention is needed. 1/

--With respect to advancing technologies for energy conservation, we believe that current programs can be effective and that private sector efforts may not be adequate to ensure prompt capture of all reasonable benefits. Therefore, we support a continued Federal role in this area.

Emergency energy preparedness

The Federal Government has an important role in countering energy emergencies such as oil import disruptions. Even though market forces can be used to offset many negative effects of such emergencies, the Federal Government must take responsibility for aspects such as nationwide demand restraint programs, removing constraints to fuel switching, recycling tax revenues, and participating in International Energy Agency programs.

An integral part of the Nation's energy emergency preparedness is a Government oil stockpile called the Strategic Petroleum Reserve. Authorized in 1975, the Reserve program got off to a slow start. By the end of 1980, it contained 108 million barrels--only one-third of the original goal for that year. However, substantial progress has been made recently, and an estimated 225 million barrels will be in storage by December 1981. However, this progress is undermined by the fact that no adequate plan exists for using the Reserve's oil.

Other aspects of the Nation's energy emergency preparedness are in an even worse condition, as we reported in September 1981. 2/ This unpreparedness results not so much from a lack of legislative authority or established programs as from a lack of seriousness about planning for disruptions.

Since our report was issued, certain legislative authorities have expired, and the administration seems content to leave to the workings of the market the complex and wide-ranging adjustments that would result from a substantial oil disruption. Although we recognize that market forces can be used to offset many negative effects of shortfalls, we believe the Government has an important role in countering oil import disruptions. Oil market disruptions are extraordinary events. Therefore, total reliance on unfettered

1/Testimony of J. Dexter Peach, October 23, 1981, before House Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, on "Energy Conservation in the Federal Government."

2/"The United States Remains Unprepared for Oil Import Disruptions," EMD-81-117, Sept. 29, 1981.

markets is an inappropriate means for dealing with them and will lead to greater economic and political losses than would occur under an integrated approach guided by Federal action.

For example, only the Federal Government can plan effectively for using oil from the Strategic Petroleum Reserve, restraining nationwide demand, removing constraints to fuel switching, recycling tax revenues, participating in programs of the International Energy Agency, 1/ and many other areas. At the same time, using the market to balance supply and demand through flexible prices is indispensable for countering disruptions because it supports the goals of Federal measures.

A governmental program also has important psychological benefits, both domestically and internationally. Well-designed, effective, and timely programs will reassure the American public and help avoid panic during an energy emergency. They should be developed beforehand so that all levels of government will not have to enact measures in time of confusion and political pressures generated by a disruption. Such quickly initiated measures could be ineffective or even counterproductive. Also, on an international level, a carefully prepared program will reassure our allies, making precipitous price increases less likely by reducing or avoiding pressure on the oil spot market and by asserting American leadership in this important area of political and economic policy.

Although there is considerable room for debate about the specific programs to be established, we believe that the Nation should have effective contingency programs to protect itself from the disastrous impacts of world oil market disruptions. Programs are needed that (1) will yield significant benefits when applied, (2) are fully developed and kept ready for use, (3) can be implemented in a timely manner, and (4) coordinate the actions of the public and private sectors.

Energy regulation

DOE's principal energy regulation programs relate to the prices, transportation, and uses of certain fossil fuels. These regulatory efforts expanded during the 1970s but have since begun to diminish. The major deregulation action was the demise of crude oil and petroleum product price controls--ordered by President Reagan in January 1981.

Even though petroleum and petroleum products are no longer subject to Federal price regulation, many allegations about past violations have yet to be resolved. In a March 1981 report, 1/ we expressed our concern that the administration may curtail these

1/"Unresolved Issues Remain Concerning U.S. Participation in the International Energy Agency," ID-81-38, Sept. 8, 1981.

activities too abruptly. We believe that DOE should work toward an orderly resolution of all known violations and litigation as of the date of decontrol. It is important to resolve these cases, not only in the interest of fairness to those companies that did not violate pricing regulations and those that agreed to settle their violations. It is also important because failure to follow through on these cases could set a dangerous precedent for any future enforcement regulations established to implement Federal laws.

We agree with the administration's plans to eliminate regulatory activities designed to encourage major oil and gas users to convert to coal use. In a recent report, 2/ we pointed out that both the cost of such conversions and the exemptions to the conversion requirement work to reduce severely the program's prospects for achieving its objectives. Further, as a practical matter, few of the new boilers being built and ordered will be oil- or gas-fired.

Nearly all natural gas is now subject to Federal price controls at the wellhead. However, major categories of gas will become free of controls in 1985, pursuant to the Natural Gas Policy Act of 1978, 15 U.S.C. 3301 (Supp. III, 1978), and the controlled categories will decline in volume. Thus, natural gas is scheduled slowly to follow petroleum in being freed from Federal price controls. Although more rapid or complete gas price decontrol has reportedly received considerable attention, it is uncertain whether the administration will propose legislation in the near future.

Even though wellhead price controls no longer apply to oil and are scheduled to be phased out gradually for natural gas, the pipelines that carry both petroleum and natural gas in interstate commerce remain under Federal regulation. The administration has not given any indication that it will attempt to end these controls.

Energy information

When the Congress established DOE in 1977, it also established an Energy Information Administration to independently compile and analyze objective and credible energy data. We have supported the improvement of energy information.

While the administration has announced its support for continuing comprehensive energy information activities, it has reduced budget authority for these activities. At this time, the appropriateness of the individual reductions is unclear.

1/"Comments on the President's February 18, 1981, Budget Proposals and Additional Cost-Saving Measures," OPP-81-2, Mar. 3, 1981.

2/"Less Regulatory Effort Needed to Achieve Federal Coal Conversion Goals," EMD-81-71, Sept. 8, 1981.

CONCLUSIONS

The torrent of Federal energy legislation enacted during the 1970s in response to the Nation's continuing energy problem is abating, and the Federal programs that grew out of the legislation are being reexamined. Also, in line with its market-oriented philosophy to solving energy problems, the administration has moved rapidly to diminish the Federal energy role by proposing to eliminate or reduce many Federal energy activities.

We agree with the administration that reducing Federal regulation and increasing reliance on the private sector are worthy goals and can help to ameliorate the energy problem. Energy producers' and consumers' responses to higher prices have helped, and can be expected to continue to help, improve the Nation's energy posture. But as long as the Nation remains heavily dependent on imported energy--and vulnerable to interruptions in its supply--there is a national security interest in energy. This interest suggests that the Federal Government ought to do more than rely on market forces alone.

In recognition of this national security interest, we agree with some of the administration's efforts to reduce major energy programs and disagree with others. Our strongest reservations relate to the administration's efforts to reduce sharply the Federal role in advancing energy supply technologies and preparing for energy emergencies.

CHAPTER 4

HOW SHOULD FEDERAL ENERGY

ACTIVITIES BE STRUCTURED?

Organizational changes are common within the Federal Government, occurring when Federal missions change, when certain activities are to be emphasized or deemphasized, and when a new organizational structure is needed to improve the effectiveness of Federal programs. Federal activities have been evolving steadily during the past 2 decades. Federal departments and agencies have been created and, less frequently, eliminated. Existing organizations have been reorganized, expanded, and reduced in size. Also, there have been shifts in the allocation of tasks among the various departments and in the organization of each department. Similar developments have occurred among sub-Cabinet agencies, administrations, and offices. In effect, the types of Federal organizations and the activities they conduct reflect shifting perceptions of national problems and how the Government can best deal with them.

The number of Cabinet-level departments has grown from 9 to 13 in the last 2 decades. The Department of Housing and Urban Development and the Department of Transportation were established in 1965 and 1966, respectively. The Department of Energy was created in 1977 and, 2 years later, the Department of Health, Education and Welfare was succeeded by the Department of Education and the Department of Health and Human Services. Most recently, in September 1981, the Reagan administration announced its intention to eliminate both the Departments of Energy and Education.

The evolution of Federal energy agencies, as described in chapter 2, is a good example of shifts in Federal organizational structures and, as discussed in chapter 3, debate is continuing about the proper role and organization of Federal energy activities. This chapter discusses some of the factors that can be considered in deliberations on the structure and role of Federal energy organizations.

WHAT FACTORS SHOULD BE CONSIDERED?

The Federal Government is organized into a large number of units, which range widely in missions, budgets, personnel levels, and other aspects. For example, the 1981 Government Manual listed 13 Cabinet-level departments and 57 independent establishments and Government corporations, including administrations, agencies, boards, commissions, and offices. The programs of the Cabinet departments receive emphasis at the highest levels of Government, but determining which activities require this perspective is not a straightforward task. That is, the criteria are not clear-cut for determining the type of organizational structure that

would be most suitable for establishing and carrying out Federal policy and programs for the activities.

There are, however, several factors that can be considered in deliberations on the structure and role of Federal organizations. These factors range from quantifiable measures such as an organization's budget and personnel levels to less objective measures such as the relative importance of the organization's programs and activities and its relations with other Federal departments and agencies.

There is considerable variation in the budget and personnel levels of Cabinet-level departments, based on Office of Management and Budget estimates for fiscal year 1981. (See table 2.) In that year, the Departments of Commerce, Justice, and State each received less than \$3 billion in budget authority. The Departments of Education and Housing and Urban Development each had less than 20,000 employees. On the other end of the spectrum, the Departments of Defense and Health and Human Services each received more than \$180 billion and had in excess of 160,000 employees. Among the 13 departments, DOE's budget of \$10.5 billion ranked 9th and its staffing level of 20,300 employees ranked 11th.

Although budgetary and staffing levels provide an indication of whether an organization's programs warrant Cabinet-level emphasis, these measures are not conclusive. For example, while Cabinet-level departments usually have larger budgets and higher staffing levels than other types of Federal organizations, there are notable exceptions. The Veterans Administration's fiscal year 1981 budget of \$22.9 billion exceeded those of seven departments. Likewise, the Veterans Administration had 212,000 employees, a number exceeded by only the Defense Department. The number of employees in both the General Services Administration and the National Aeronautics and Space Administration exceeded the number in four departments, including DOE.

Because of the wide variation in the budgetary and staffing levels of Federal departments and other types of agencies, these factors--although important--do not appear to be decisive measures for determining the most appropriate organizational structure for formulating and implementing Federal policies and objectives. Other factors--although less quantifiable--are critical and should not be overlooked.

For example, the nature of the problem is particularly important in determining whether a Cabinet-level organizational structure is appropriate. While each Federal agency addresses problems that are important to some segment of the population, business community, or other groups, a Cabinet-level perspective is appropriate for developing, coordinating, and directing policies for the most pervasive and sensitive problems involving the national security, economy, and quality of life. Another key factor involves the extent and level of coordination and

Table 2

Estimated Budget and Personnel Levels
for Departments and Selected Agencies
Fiscal Year 1981

<u>Department</u>	<u>Budget authority</u> <u>(in billions)</u>	<u>Federal</u> <u>civilian</u> <u>employment</u> <u>(end of year)</u>
Agriculture	\$ 26.3	125,000
Commerce	2.4	37,300
Defense	180.2	961,900
Education	13.5	6,800
Energy	10.5	20,300
Health and Human Services	226.2	160,100
Housing and Urban Development	32.8	15,500
Interior	3.9	75,000
Justice	2.3	54,700
Labor	32.2	21,900
State	2.3	23,400
Transportation	23.4	68,800
Treasury	86.2	120,900
 <u>Agency</u>		
Environmental Protection Agency	3.0	14,100
General Services Administration	1.0	33,700
National Aeronautics and Space Administration	5.5	23,300
Nuclear Regulatory Commission	.5	3,400
Office of Personnel Management	28.5	7,400
Small Business Administration	1.6	4,700
Veterans Administration	22.9	212,000

Source: U.S. Office of Management and Budget, Additional Details on Budget Savings, Fiscal Year 1982 Budget Revisions, April 1981, and unpublished data.

interaction necessary with other Federal departments. While some sub-Cabinet level agencies conduct activities of this type, the involvement of a Cabinet department might be necessary or appropriate for coordinating those activities have a critical impact on the Nation's long-range security and well-being.

WHAT STRUCTURE IS BEST FOR ENERGY ACTIVITIES?

Controversy over the appropriate organizational structure for dealing with energy problems has been unabated during the past decade. Although the establishment of DOE was a widely accepted approach to solving the Nation's energy problems, numerous questions have been raised about the Department's management and the effectiveness of its operations. Since DOE was established, the Congress has considered several major initiatives to place responsibilities for major energy functions outside DOE, and in 1980, established the U.S. Synthetic Fuels Corporation to spur production of synthetic fuels. Several bills have been introduced in the 97th Congress to terminate or dismantle the Department.

Also, the administration has taken major steps to reorient Federal energy policies and responsibilities. Even before the President announced in September 1981 his intention to dismantle DOE, the Department's July 1981 National Energy Policy Plan clearly emphasized an increased reliance on a market- rather than a Government-oriented approach to energy problems.

In deliberating on the appropriate Federal energy structure, we believe the Congress and the executive branch have several broad options available to consider.

1. The functions of DOE could be decentralized. For example, separate sub-Cabinet agencies could be created to execute programs for energy policy formulation, research and development, power marketing, and so forth. An alternative under this option would be to merge the separate activities into several existing agencies. Finally, some activities could be merged into existing agencies and others could be combined into a new agency, such as placing both nuclear energy and nuclear weapons responsibilities in a Federal nuclear agency.
2. DOE could be maintained essentially as it is but lose its Cabinet-level status. Even at its current levels, DOE's staffing would not differ dramatically from the Environmental Protection Agency and would be smaller than several other non-Cabinet-level agencies.
3. Energy activities could retain their Cabinet-level status. DOE could be left essentially as it is or its energy activities could be merged into an existing department. If the

energy activities were merged in this manner, a decision would be required on whether defense-related nuclear activities should continue to be associated with other nuclear programs or moved to the Department of Defense.

In examining the broad options for energy organization, it is important to recognize the inherent difficulties of defining right or wrong answers in organizational structure. Certainly, the best structure is one that is most effective. In applying that broad statement to the Department of Energy and its predecessor agencies, however, our work has shown serious problems in energy program management and decisionmaking under both a Cabinet department organization and an organizational structure in which energy programs were spread among several agencies. Our discussion in chapter 3 presents some of the reasons why the energy area has been a particularly difficult area in which to develop and manage programs, whatever the structure.

Given that there may be no one "best" answer for energy organization, we believe there are three fundamental questions the Congress should consider in examining the broad options for energy organization.

--Given the history of DOE's and its predecessor agencies' performance, could it be necessarily expected that program effectiveness would improve if the various energy activities were dispersed or otherwise changed?

--Given the nature of our Nation's energy problems, how important is a central focus for energy activities?

--If a central focus seems appropriate, what factors argue for Cabinet as opposed to sub-Cabinet status?

While information can be gathered to shed light on each of these questions, ultimately choosing among the options requires the exercise of political and value judgments about the "best" structure and the practicality of fundamental changes in energy organization structure at this time. The following sections discuss the three broad options available in the general context of these three fundamental questions.

Dispersing energy functions

Federal policies toward researching, producing, using, or regulating the various forms of energy must be predicated on a recognition of the diverse concomitant effects on foreign policy, finance, industrial and military security, environmental protection, and quality of life in general.

Because of many interrelationships and tradeoffs, the difficulty in solving the overall energy problem is greater than managing the sum of the individual energy components. Therefore, the dispersing option raises a number of questions about program

coordination which would require careful study. A good example of the need to devise an approach that takes into account many, and sometimes conflicting, long-term energy and other national concerns is the continuing shift toward reducing oil imports by using coal instead--and the accompanying questions concerning stripmining, socioeconomic effects, air pollution, and acid rain.

Also, changes in policies for one type of fuel, such as oil production or imports, can affect a wide variety of uses for that fuel as well as uses for other fuels. For example, oil can be refined into a wide range of products, such as gasoline, heating oil, the residual oil. These products can serve a broad spectrum of energy uses, such as powering automobiles and trucks, heating homes and factories, and generating electricity for various uses.

Conversely, oil is only one fuel source for electricity, which accounts for an increasing large share of energy consumption. Electricity increased from 19 percent of consumption in 1960 to 33 percent in 1980. Its continued growth is affected by the availability of other fuel types. For example, oil provides 11 percent of U.S. electricity, coal provides 51 percent, nuclear power provides 11 percent, natural gas provides 15 percent, and hydroelectric and other sources provide the remaining 12 percent.

Not only can electricity be generated in many ways, but it can also be "wheeled" within regions of the country and sometimes even from one region to another. Therefore, increases in domestic coal- or nuclear-generated electricity could replace oil- or natural gas-generated electricity. Indeed, it may be possible in the future to use domestic fuels to provide electricity to run electric vehicles, and replace many current gasoline- or diesel-fueled cars which depend in large part on imported petroleum or refined products.

Finally, just as the Nation's energy concerns are inter-related with environmental and socioeconomic concerns, domestic and international energy concerns are related, both in establishing long-term policies and in responding to short-term crises. For example, because the United States uses far more oil than any other country, efforts to produce more--or consume less--oil here can significantly affect the availability and price of oil to other nations. Furthermore, the United States and 20 other oil consuming countries, as members of the International Energy Agency, would depend on each other to share available oil supplies in the event of a serious supply disruption.

We concluded in March 1977 that Federal efforts to resolve the Nation's energy problems were hampered by a diffusion of responsibility among several agencies and that this reduced planning and decisionmaking. 1/ The primary Federal energy

1/"Energy Policy Decisionmaking, Organization, and National Energy Goals," EMD-77-31, Mar. 24, 1977.

agencies at that time--in acting to carry out their separate missions--did not always take actions and make decisions that were fully compatible with overall national energy goals. For example, we identified

- an imbalance in the funding levels between programs designed to conserve energy and to increase energy supply,
- the lack of an effective mechanism to bridge the gap between energy technology research and development, and commercialization of the technology, and
- incompatibilities between price regulation and some energy conservation and resource development goals.

In addition to these problems, we pointed out numerous management problems and difficulties in coordinating energy and energy-related issues and other national concerns. As indicated above, we also have been critical of the management and organization of many DOE programs and in numerous reports we have noted problems in program planning and management, interagency relations, and accounting and financial management.

Many of the problems we have noted could be found regardless of the organizational structure, since the problems are often the result of inadequate program management. Consequently, improvements should not be expected merely by changing the organizational structure. In this regard, specific proposals to dismantle DOE should be examined with particular emphasis on the implications which a dispersed organizational approach could have on the management and direction of specific programs.

Given the apparent need for coordination of energy programs, particularly in the case of possible future energy emergencies, any proposal to dismantle energy programs should identify expected improvements in program management and decisionmaking. It should also specify ways in which coordination of the dispersed activities would be accomplished.

Instituting a sub-Cabinet-level energy agency

Another way of providing effective coordination of energy functions would be to locate energy programs within a central sub-Cabinet agency responsible for energy issues. Although effective coordination of energy programs carried out by more than one Federal agency could achieve the same purposes as centering energy responsibilities in a single agency, the history of Federal energy efforts demonstrates clearly that obtaining adequate coordination among multiple agencies can be extremely difficult. After several reorganizations of Federal energy functions during the 1970s, it became apparent to the Congress and the executive branch that a better solution was to establish a single, central energy agency

charged with providing an energy focus and developing comprehensive energy policies and programs.

Although lacking the prestige and influence of a Cabinet-level department, a sub-Cabinet energy agency would have a clear and consistent mandate to help it carry out energy functions more effectively than agencies having more diverse, conflicting responsibilities. Such an agency, for example, could assign its priorities and devote its resources toward formulating comprehensive energy policies and determining appropriate tradeoffs among technological, economic, political, and environmental aspects of numerous domestic and foreign energy supply options. It would also have at its disposal the information, strategic petroleum reserves, contingency plans, and other resources to act decisively in a domestic or international energy crisis situation. In addition, it would provide a focus for coordinating energy issues and programs with other related issues and programs involving environmental and non-energy resource concerns.

Retaining Cabinet-level status

As noted earlier, there are no clear-cut criteria for determining which Federal agencies deserve the visibility and prestige inherent in Cabinet status. Key considerations include not only budget and personnel levels, but also--and perhaps more importantly--the nature of the situation to be addressed and the extent of interagency and international coordination required. Although a sub-Cabinet-level agency for energy would provide a central focus on energy, there are, nevertheless, inherent benefits to in a Cabinet-level agency the overall responsibilities for the serious, pervasive, and long-term energy problem--especially since the problem has important international implications.

Cabinet status would help ensure that sufficient emphasis and visibility is directed toward the energy problem and would provide the opportunity to draw attention to energy concerns at the highest levels of the Federal Government and on a competitive basis with other issues. Cabinet status also would project to the international community an image which reflects the importance and commitment the United States attaches to resolving the problem.

In addition, maintaining a Cabinet-level focus would provide the energy agency head the opportunity to participate on an equal basis with other department heads in addressing policy, budgetary, and programmatic issues. Such interagency relationships are commonplace and include DOE's dealings with the Interior Department, in leasing and managing Federal energy resources; the State Department, in conducting and implementing foreign policy relating to energy matters; the Agriculture Department, in advancing production of alcohol fuels; and the Treasury Department, in devising energy tax policy.

Furthermore, many of our allies are heavily dependent on imported energy, and international cooperation is important both in formulating and implementing long-term energy policies and in responding to energy crises. As the largest energy producer and consumer in a highly interrelated world energy market, the United States is widely viewed as a key to stabilizing the world energy situation. Maintaining DOE's Cabinet status would convey to both oil exporters and other importers that this Nation recognizes the seriousness of the energy problem and that the problem is receiving adequate attention.

Another option would be to reassess the merits of establishing a Cabinet-level department with responsibility for all energy and related natural resource issues. Establishment of such an entity would recognize that energy resources are only one form of the Nation's natural resources and that there are several types of interrelationships between energy and the other resources. For example, the Nation depends on foreign suppliers for considerable quantities of fuel and non-fuel minerals, these resources are depletable, and domestic development must be weighed against other policy considerations.

GAO supported a Department of Energy and Natural Resources (DENR) in report issued in 1974 and 1977--before the creation of DOE--and supported DOE's establishment as an interim step toward such a structure. ^{1/} We have not recently evaluated the programmatic and cost-effectiveness aspects of such a structure. Any change in the organizational structure of DOE necessarily involves some disruption of existing activities and what is logical from the standpoint of energy or natural resources may be less desirable from other perspectives. A move to disperse DOE's energy activities might fragment programs and relationships that have been developed over the past few years. As noted in Chapter 2, DOE was formed essentially by molding together several predecessor agencies. Integrating all the pieces with a coherent whole is not yet completed. After the frequent changes over the past decade, perhaps a period of stability would finally permit DOE to devote adequate attention to organization and management.

OBSERVATIONS

While there may be no one "best" answer for energy organization, a number of specific factors should be considered in determining the most appropriate structure. None of the factors is conclusive and all must be weighed along with value and political judgments in deciding upon an organizational structure.

^{1/}"Actions Needed to Improve Federal Efforts in Collecting, Analyzing and Reporting Energy Data," B-178205, Feb. 6, 1974, and "Energy Policy Decisionmaking, Organization, and National Energy Goals," EMD-77-31, Mar. 24, 1977.

Among the key factors to be considered are

- the budget and personnel levels of the agency,
- the extent of agency interaction on program matters with other agencies,
- the nature of the Nation's energy problems and related importance of providing common organizational focus on such problems, and
- the likelihood of improving energy program performance and decisionmaking by changes in organization.

In examining these and other factors, we believe that energy problems clearly are long-term and have important implications for the Nation's security, international relations, economy, and quality of life. In this regard, the driving focus behind the Government's recent involvement in energy stems from our heavy reliance on insecure sources of foreign oil and the related national security and economic implications. For its part, past performance of Federal energy organizations provides little basis for deciding on a best organizational structure because many problems have been many identified in both a centralized and a decentralized structure.

Of the three broad options available, we have the following observations.

- Specific proposals to disperse DOE programs and responsibilities should be examined with particular emphasis on the effects such changes would have on program management and decisionmaking. In addition, given the need for coordination of energy programs, particularly in the case of possible future energy emergencies, information should be sought and careful attention paid to ways in which such coordination would take place. In summary, the dismantling option raises a number of questions about program coordination which would require analysis.
- The option of keeping existing energy programs together and reducing them to sub-Cabinet status obviously does not raise the same issues of energy program coordination. The principal point of focus in examining this option is whether the reduced stature is appropriate given the long term nature and other national and international implications of energy issues.
- The option of retaining Cabinet-level status for energy would provide a focus on the energy problem, help ensure that sufficient emphasis and visibility is directed toward the problem, and provide the opportunity for energy issues to be considered at the highest levels of the Government. It would also demonstrate to foreign nations this Nation's

commitment to solving the problem and assure that international energy efforts are coordinated.

Assuming a Cabinet-level focus is desired, the question of whether to maintain DOE as is, establish a new department to manage both energy and other natural resource programs, or merge energy responsibilities with an existing cabinet agency revolves around the programmatic advantages, cost effectiveness, and other merits of the various arrangements. To make such an analysis would require a specific outline of responsibilities.

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On December 17, 1981, as this report was undergoing final processing, the President announced an overall plan that would essentially divide the current responsibilities of DOE between the Department of the Interior and the Department of Commerce. The President's statement indicated that a task force composed of representatives from the White House Office of Policy Development, the Office of Management and Budget, and the Departments of Energy, Commerce, and the Interior would begin work immediately on the detailed legislation and plans needed to carry out the decision.

When a detailed proposal is made public, we will analyze it in response to several recent congressional requests. In the meantime, we believe the historical perspective and analytical framework provided by the current immediate report will provide a good basis for further discussion and study of energy organizational structure.

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