Multiple Failures of Public and Private Institutions

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We face a crisis in total energy and in electric energy. The total energy crisis is the more basic and serious of the two. If the primary fuels were not in crisis, the difficulty in electric energy would be moderate, perhaps insignificant. The crisis we face was brought into sharp focus as the result of a breakdown at the various levels of our society dealing with energy and by the failure of institutions at each level to carry out their roles in a far too fragmented chain of overall responsibility.

In the public sector, Congress failed long ago in not establishing a national energy policy. The executive branch of the government failed in not focusing on the issue and prodding Congress into action. The Department of the Interior and its Office of Oil and Gas failed in their responsibility to assure adequate oil and gas supplies. (What were they doing in 1969 when U.S. reserves of crude oil dropped by 1 billion barrels?) The Federal Power Commission failed in its responsibilities in both gas and electric energy. In the case of gas, it set up control of natural gas at the wellhead at far too low a price level. In electric energy, it failed to make an adequate effort to monitor, guide, and strengthen the development of our power supplies and their performance. The Securities and Exchange Commission failed in not pursuing complete integration of the power systems of the country into vigorous regional self-supporting systems. Our state regulatory commissions failed by not concerning themselves with the character of the systems being regulated, the quality of their service, and their ability to maintain service in the future.

In the private sector, the electric utilities failed by not paying enough attention to their principal raw material, fuel. The gas utilities failed by overexpanding their gas heating market on the basis of inadequately priced gas supplies. The oil industry, in its disregard of the fragile nature of our indigenous oil supplies, failed to provide a backup for these supplies as their reserves began to decline. The coal industry failed by letting itself be too easily convinced that coal was becoming an obsolete fuel. Automobile manufacturers failed by paying almost no attention to the effect of the rising horsepower under the hood of the average automobile on the demand for gasoline.

Our environmental movement, including both private and public organizations, failed because they ignored the effect they were having on the economic life of the country, and particularly on the nation's energy supply.

Causes of the Crisis

It is more difficult to diagnose the underlying causes of the energy crisis than to list the fragmented links in a nonintegrated chain that helped to bring it about. The list is not very long. It includes the following points.

We have no national energy policy. Not only is there no unified energy policy, but the fragmented parts are not even coordinated.

We have a unique mixture of private enterprise and public operation in the energy industry. We have, for the most part, a private enterprise economy in oil, coal, and the mining of uranium. In gas transmission and distribution we have a regulated utility organization. In the development of hydroelectric and nuclear power we have a mixture of public and regulated private ownership, but the primary energy industry is largely in the private sector and operates unregulated and unsupervised. The electric and gas utilities, however, are closely regulated with regard to the segment in the private sector, but the one-fourth of the industry that is publicly owned or financed operates without regulation.

Our total energy use has grown rapidly in the last 75 years—close to tenfold. In the same period, electric energy use has grown close to 200-fold. With the exception of electricity and some of the gas, energy has been growing in a free market economy. But the free market has proved a poor instrument for taking care of national and social responsibilities, having no accountability for either present or future performance.

While electric energy, now 27 percent of our total energy, has steadily increased its share of the total, the basic mechanism for assuring solid performance has, on the whole, been neglected.

We have no usable instrumentality for reviewing and appraising the quality of planning, building, and operating to assure an adequate, reliable supply of energy in the various forms required to serve the nation.

We have, in consequence, been standing still. We have been standing still while our oil reserves decline, while our oil companies put their resources into developing foreign reserves, yet bitterly oppose importing these into the United States, while our environmentalists prevent the development of such great oil reserves as Prudhoe Bay, Alaska, and while our shale oil reserves remain unused. We have been standing still while our electric utilities more or less abandon coal, and while we feed the monsters of Detroit with more and more gasoline per mile traveled. We have been standing still in our research on coal, in our search for new oil and gas, and in our efforts to develop a comprehensive program of research on electric energy.

It is time we stopped standing still and began to move.

Our energy house was a good house when we built it, a room at a time, over many decades. The house badly needs remodeling and modernization, but perhaps we had better drop metaphors and talk specifics.

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What Must We Do?

I can think of at least seven things that are important.

1) Establish a national energy policy; this is the first and foundation item. An ad hoc commission must be set up to hold hearings, analyze a series of social studies, make evaluations, and reach conclusions on such troublesome questions as the following: (i) How to reestablish the substantial independence of the country's energy supply. (ii) The merits and desirability of increased competition among coal, oil, natural gas, and nuclear fuel. (iii) Whether the performance, to date, of atomic energy has measured up to the expectation that it will fill an otherwise large gap in our energy resources. (iv) What the social and economic impact of energy and electric energy has been. (v) What effect market forces will have on the energy and fuel requirements in all segments of our society over the next 30 years. (vi) Within the postulates of a national energy policy, how to correct past corruptions of the environment. We must keep in mind that only prosperous societies can afford to pay serious attention to environmental quality.

2) Obtain a better understanding of energy. The crisis we are facing is not sudden, nor will it be transient. Nor is energy a commodity to be bought and sold like any other commodity—it is a central component in the functioning of a modern society.

3) Add to the supply of oil by: (i) Increasing production from our oil wells to the highest rate consistent with efficiency. (ii) Expediting the construction of the Alaskan pipeline. (iii) Organizing a crash program of drilling on the eastern and western continental shelves. (iv) Setting up in different locations three oil shale demonstration plants, each with a capacity of 100,000 barrels (16,000 cubic meters) per day. If these could be made successful commercial enterprises, they would give us the equivalent of 100 million barrels of oil per year. As the work progressed satisfactorily, it should be scaled up by a factor of 3, and 1 billion barrels of oil per year set as the goal. The oil shale program recently announced by Interior Secretary Morton is much too leisurely and much too timid. (v) Negotiating with government and industry in Canada to set up a cooperative program, on half the scale of the oil shale program outlined above, to utilize the Canadian Athabasca tar sands.

4) Accelerate the construction of nuclear power plants by: (i) Clearing the tangle of environmental wild growth which has impeded expansion of the atomic power program. (ii) Simplifying the siting program for future plants by setting up for demonstration three atomic reactor installations with dry cooling towers. (iii) Streamlining the licensing process of the Atomic Energy Commission. (iv) Pushing research and development on the application of electricity from nuclear power in major areas, particularly heating and transportation.

5) Increase the supply and use of coal by a crash program to build ten coal-fired generating plants, each with a total capacity of 4000 megawatts. Each plant will burn 10 million tons of coal, which will have to come from new mines. (i) The eastern coal reserves must not be bottled up because of their higher sulfur content. We must rewrite our standards and measure the sulfur dioxide content in the air in terms of ambient measurements at ground level. (ii) Set up priorities on the use of primary fuels. (iii) Set up a major program to make possible the mining of additional coal through training of staff, research in mining, and better treatment of mine wastes and overburden.

6) Increase the supply of natural gas by: (i) Organizing a crash program of drilling on the eastern and western continental shelves. (ii) Setting up three coal gasification demonstration plants, each with a capacity of 500 million cubic feet (14×10^6 m^3) per day, employing the process that current research indicates will give the most promising yield of high-Btu gas, from either coal or lignite. (iii) Setting up three low-Btu coal gasification plants, using the process that current research indicates will give the most promising yield of low-Btu gas suitable for use in electric power plants or industrial plants.

7) Organize a research program with the objective of implementing the national energy policy as expeditiously and as economically as possible. We need to take advantage of the coal option, building on the present technology and developing it further as we go along. Of course we will need research, but this does not have to be concentrated in a governmental agency.

Suppose we accept all the things outlined here. Who is going to do them? Do we have to wait until a national energy policy has been formulated and approved before we do anything?

The answer is no. We do not have to wait. We can proceed with all parts of the program, including setting up the Ad Hoc Commission on a National Energy Policy, and we can start work on some of the other parts while the commission carries out its studies and formulates its report on policy. But this should be discussed as a separate part of what we must do.

New Institutional Structures?

We have to create the social and economic mechanism for executing the major program outlined in the seven items above. It is, of course, assumed that every rational step in the public interest will be taken to achieve more efficient and more effective energy use in order to reduce the rate of growth of the demand for energy in the years ahead.

Granted these conditions, do we need new institutional structures to serve public and private interests? This is the nub of my article. To me, new institutional structures would mean organizations predominantly owned and managed by the government, to be overlaid on, or to supersede, present private structures.

However, I find it more difficult as I get older to debate patiently any proposal to turn over to the government any social-economic operation on the grounds of protecting the public interest, unless there are some very special conditions. I have never found that government management personnel are sufficiently superior (if at all) in integrity, vision, courage, thinking, and forceful execution to guarantee that a government-owned system will perform better than, or as well as, a private system. I would, therefore, build anything I had to build to renew and modernize our house of energy on private enterprise, but with a strong component of government intervention in its administration. And I would have the government adopt the roles of overseer, critic, and judge, and have it be the locus of discontent with the status quo.

I would put the whole responsibility for executing the seven-part program described above on a few existing and newly created agencies.

1) A Department of Energy would be created at cabinet level.

2) Regulation of rates and accounting in electric and gas utilities and licensing hydroelectric projects would continue to be handled by the Federal Power Commission. A licensing procedure for steam-electric plants would be developed. Nuclear steam-electric plants, however, would continue to be licensed by the Atomic Energy Commission. All other duties of the Federal Power Commission would be transferred to a new major body in the Department of Energy to be known as the Energy Commission.

3) In the new Department of Energy a Commission on Liquid Energy would be organized to license domestic companies engaged here and abroad in drilling and extracting crude oil and building and operating refineries, including gasification and liquefaction. It would also develop a program for reorganizing the liquid energy industry as a regulated utility operation. This is designed to remedy the obvious lack of balance in having electricity, water, gas, telephone, and telegraph functions regulated as utilities, while treating the largest component of energy in our society—petroleum, its distillates and residues—as a strictly private enterprise operation.

4) A new Commission on Coal would be created to supervise coal and related energy sources. This would cover mining of coal, oil shales, and other oil-yielding minerals, as well as disposal of discarded overburden and residues.

5) The Department of Energy would maintain contact with the Congress through a new Joint Committee on Energy. One of the committee's most important functions would be to hold annual hearings on the performance of the various branches of the energy industry. It should promptly publish a report on these hearings so that the analysis of past performance is available in time to be integrated into the operations of the following year.

The main function of the Department of Energy would be to assure the country of an adequate, reliable, and economical supply of energy for all the nation's needs. This responsibility would be divided among its commissions, as outlined above, but it would be the department's special responsibility to work directly by two mechanisms: (i) Continual guidance and correction of the courses of its various agencies to assure that the national energy policy is being effectively implemented. (ii) Carrying out that implementation through an important tool, the research division of the department. This division should work through the industry most directly involved, manufacturers of equipment for that industry, the staffs and laboratories of the division (in-house research) and those of industry, brought in on an ad hoc basis, educational institutions, or a combination of one or more of these. The research division should issue a separate yearly report and present it at the annual hearings before the Joint Committee on Energy.

All this work, barely outlined here, will require much discussion, planning, and fleshing out. It will require careful legislative drafting at first, and then careful staffing in setting up an ad hoc commission, the new department, the three new commissions, the research division, and the new Joint Committee on Energy. But it will integrate our total energy supply. It will, for the first time, place the production, distribution, and sale of energy used directly by the public—oil, liquid gas, gasoline, and other liquid fuels—in the hands of regulated suppliers under the supervision of a select body from the two houses of Congress, to assure responsible concern for the political, social, and economic welfare of the country. The locus of discontent that I mentioned earlier would, I hope, reside in this select body, the Joint Committee on Energy. Thus, we would utilize our present institutional structures as building elements to assure the people of the United States of a reliable and economical energy supply, with no impending threats of disruption by foreign countries.

Federal Energy Office chief William E. Simon (center) and his deputy John C. Sawhill talk with President Nixon in his White House office.