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ENERGY OPTIONS FOR TODAY AND TOMORROW

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The energy crisis of the United States is often dated from the price increase and embargo imposed by the Organization of Petroleum Exporting Countries (OPEC) in October 1973, followed by the massive price increase in January 1974. This view of the energy world, however, is misleading. In fact, an energy problem for the United States began emerging in the mid-1960's and had reached very significant proportions by the summer of 1973. By the mid-1960's, the new findings of natural gas had fallen below annual production, and the reserve base for interstate gas began to decline; air pollution regulations, imposed primarily on the Eastern Seaboard but also in the Midwest, began to force coal out of the electric utility market and increased markedly the demand for low-sulfur fuel oil; and excess capacity in crude oil production, which had been a characteristic of the U.S. industry since the late 1920's, began to disappear.

By 1970 the situation had turned from a position of energy self-sufficiency to one of dependence upon overseas imports in the petroleum area. This shift in position was accelerated by the step-up in the rate of demand for total energy relative to GNP, which became evident about 1965. Several factors contributed to the increased rate of energy demand. First, the rate of increase in efficiency of electric power generation slowed, and continued growth of the industry required increasing gross energy inputs by the economy. Second, the growth of automobile accessories and the imposition of pollution standards accelerated the decline in miles per gallon for the average car. Third, the proliferation of appliances and central air conditioning in homes added to energy demand. The increased demand was concentrated on oil, accentuating the decline in excess capacity.

On the supply side, a number of factors reduced the growth of new producing capacity, both at the primary fuel and at the refinery level. These factors included the decline in drilling in the United States for oil and gas; the moratorium on outer continental shelf leasing; the National Environmental Protection Act requirements, which greatly slowed the development of the Trans-Alaska pipe-

line; the Coal Mine Health and Safety Act; and the uncertainty concerning import policy for petroleum.

The situation was recognized and led to a Presidential message on energy in the summer of 1971. The discussions that followed concerning approaches to the energy situation led to the breeder reactor program and a modest acceleration of fossil fuel research.

By the beginning of 1973 the situation was reaching a critical stage, accentuated by price controls. The Administration appointed the first of its energy czars in the spring of that year. There were spot shortages of gasoline in such places as Denver and the Pacific Northwest in the summer of 1973. Major studies were under way within the federal government in August 1973 on mandatory allocation systems for fuel oil for the coming winter. The point is that, while the OPEC price increases and embargo were a major shock to the energy system, the energy problem existed before that and has roots much deeper than just a cartel action by a group of oil producers in the world.

This paper will state and analyze current issues in energy policy. The first major section will review the reaction to the OPEC embargo and price increases. The second section will critically examine the policies proposed by the President and as they are emerging from Congress. The third section will discuss related major policy areas, and the final section presents the author's energy policy position.

REACTION TO OPEC

The OPEC crisis found the energy policy mechanism of the federal government in disarray. There had been a succession of energy leaders—from Flanigan to Erlichman to DiBona to Love to Simon—in the previous year. Voluntary allocation programs to handle the shortages were in effect, but neither the Congress nor the Administration was satisfied with the existing policy structure.

The first reaction to the embargo was an allocation system, placed in the Department of the Interior, with an expanded staff under the Office of Oil and Gas. Initially the organization was to be staffed with executive reservists from the petroleum industry, who had been maintained in standby capacity since World War II for precisely such an emergency. Conflict of interest questions were immediately raised and, as a result, the staff of the initial effort had to be federal civil servants rather than knowledgeable industry people. This led to a chaotic situation.

The Federal Energy Office, under William Simon, was established by executive order in early December 1973, in an effort to straighten out the mess. This office took over the petroleum allocation responsibilities and much of the authority which resided in the Department of the Interior. The Federal Energy Office was succeeded by the Federal Energy Administration, established by Congress as a temporary agency to deal with energy. Late in 1974 Congress established the Energy Resources Council, a statutory organization in the White House. The Secretary of the Interior was placed in charge of the Energy Resources Council but, in fact, the Director of the Federal Energy Administration appears to be the main driving force on energy within the Administration.

The reaction to the embargo and price crisis has been threefold. First, allocations have been used to distribute scarce energy supplies, but the authority for mandatory allocation died with the President's veto of the extension of the emergency energy act. Second, efforts have been made to increase the domestic production of energy. These involve rapid acceleration of leasing on the outer continental shelf, congressional action to authorize the building of the Trans-Alaska pipeline, and a massive injection of research and development funds into alternative sources and forms of energy. Third, there has been much talk and some action on the conservation of energy. Daylight savings time was imposed year-round, a nationwide speed limit of 55 miles per hour was established, and public relations campaigns on energy conservation were instituted.

Backing up the federal allocation system, many states adopted measures to distribute gasoline supplies more equitably. Even-odd systems were instituted during the spring of 1974, and Sunday closings of gasoline stations were very widespread.

The price increase of OPEC oil caused major dislocations in the international monetary area. The International Energy Agency, formed with the strong urging of the United States, has begun to react with a common consumer point of view to the OPEC cartel. France is the only major free-world industrial country which has refused to join the IEA. The International Monetary Fund has approved the safety net proposal of a revolving fund for borrowing to handle balance-of-payments deficits arising from oil.

Consumption of energy in 1974 in the United States actually declined, but during the first eight months of 1975, demand for coal and oil started to rise again. It is not clear whether the decline was a response to high prices of energy, to energy conservation, or to

the recession. Concurrent with declining consumption, there were very substantial increases in world petroleum reserves. Today, production in the petroleum exporting countries is some 30 percent lower than capacity. Stocks in the United States are high for all petroleum products. There are some indications of price cutting in the Middle East oil markets, and some analysts are predicting a crude petroleum price collapse within the next several years.

ENERGY POLICY PROPOSALS

The Administration's Program

In January 1975, President Ford submitted to Congress a complex energy program. His energy program was tied directly to his economic program, and President Ford has insisted on this relationship.

The goals of the Administration's energy program are to reduce imports by 1 million barrels per day by the end of 1975, by 2 million barrels a day by the end of 1977, and to a level of 5 million barrels a day by 1985. Reduction in consumption is to be achieved by higher prices for energy. The 1985 target level of imports is to be achieved by a combination of reduced consumption and increased domestic supply.

To implement this program, the President has announced import fees on imported crude oil and products equivalent to two dollars per barrel. Congress passed legislation to postpone this import fee increase, but was unable to override a presidential veto of this legislation. (A federal appeals court has found that the President exceeded his authority in levying the import fee. That decision is on appeal in the Supreme Court.)

The President announced his intention to decontrol the price of old oil in the United States in the spring of 1975. He delayed, at the urging of Congress, and submitted for consideration several alternatives to complete decontrol. Congress passed a simple extension of the price control-allocation act. When this authority expires, the price of oil will be completely decontrolled, and the President will have no allocation authority.

The major items of the President's program which require legislative action include a windfall profits tax for crude oil and natural gas, natural gas price deregulation, excise taxes on petroleum and natural gas, opening up of naval petroleum reserves for production, forced conversion of electric utilities to domestic coal, and a strategic storage system for petroleum. The President is also requesting standby authorities for rationing and allocation of pe-

troleum and a package of incentives for energy conservation. Included in the program is a group of bills relating to the electric utility industry. These relate to the pass-through of fuel costs, tax treatment of investment and preferred stock dividends, and expedited licensing and siting of nuclear facilities.

Critique of the Administration's Program

The Administration's program quite obviously has several objectives. The import fee proposal and the heavy excise taxes on petroleum and natural gas are aimed at increasing the price of energy in order to reduce consumption. However, the other half of the supply-demand mechanism is supply response to higher prices, which would help mitigate the price rise and help achieve the 1985 objective.

On the supply side, this program takes away the incentives. The excise tax plus a windfall profits tax would prevent the higher prices implied by tariffs and price decontrol actions from serving as an incentive for increasing domestic production. It must be noted that the program also includes the establishment of floor prices for new energy sources. Conflicting signals are coming from the International Energy Agency and the Administration. While the Administration has opted for high energy prices to reduce consumption, it has not opted to allow these high energy prices to go to producers in the form of higher returns to increase supply.

There is no clear justification of the necessity of meeting the Administration's short-term goals of reducing petroleum imports by 1 million barrels per day by the end of this year and 2 million barrels per day by 1977. Such a reduction could very well deepen the current recession. There is a rising chorus from critics who argue that nothing is to be gained by such a drastic reduction.

Other areas of criticism of the program lie with the tying together of the economic issues and the energy problem. The proposed program would involve a massive increase in federal revenues, which would be distributed back to the economy through tax cuts and other payments. It is not clear that the income distribution problem and the recession problem are integral parts of the energy problem. There are interactions between them, and the President's approach of reducing energy consumption by higher prices emphasizes these interactions. Nevertheless, the petroleum and fuel bill for the United States is still a relatively minor part of GNP. The issues in the economic area are different, complex, and highly important. The forced consideration of joint policies does not appear to be either necessary or wise.

The Congressional Proposals

It is trite to say that Congress does not speak in one voice. The Democratic leadership of the House and the Senate are attempting to develop a joint energy program as an alternative to the Administration's program. What will finally result from congressional action is not at all clear. There is no congressional energy program. Some elements appear to be consensus items, such as limited reduction of imports, forced conservation, federal exploration of federally owned resources, continued price controls on old oils, and the use of import quotas rather than tariffs. These arise from the joint efforts of House and Senate committees. However, the organization of Congress, which brings many committees into the energy picture, makes the development of a comprehensive and consistent program by Congress extremely difficult.

Earlier in the game there appeared to be vocal support for gasoline rationing as an alternative to higher energy prices. Although this idea is still being pushed, at least on a standby basis, in the Senate, support for it as an immediate action has obviously declined.

Critique of Congressional Energy Proposals

Congress appears to be moving away from the price system as the main mechanism to achieve energy sufficiency. They wish to concentrate the energy conservation measures on gasoline, apparently on the ground that gasoline consumption has higher elements of social waste than other energy consumption. They accept tax incentives for conservation of energy in other forms, such as home insulation, and they intend to use the tax system to penalize heavy gas-consuming cars. But the basic thrust is clearly not across-the-board energy conservation, but energy conservation directed primarily to the automobile. The difficulty with this position is that there is less elasticity in gasoline demand than there is in other sectors of energy consumption.

On the supply side, Congress appears to be moving to change the economic institutions surrounding energy. The call for a federal energy corporation is a move toward social direction of future energy production, and away from our tradition of private sector exploitation of publicly owned resources.

Perhaps most difficult of all to deal with is congressional rejection of the price system as a regulator of energy supply. It is very clear that the Senate is not happy with the deregulation of natural gas. It is equally clear that there is considerable pressure from Congress to maintain price controls on old crude oil.

OVERVIEW OF ENERGY POLICY ALTERNATIVES

In order to get a little bit of organization into the chaos, in this section six major energy policy issues will be discussed. These are: (1) reduced consumption, (2) import reduction, (3) pricing of fuels, (4) supply augmentation, (5) environmental questions, and (6) utility problems.

Reduced Consumption

At issue in consumption reduction is the question of how much, how soon, and the means to achieve whatever goal is established.

The President's goals apparently have no analytical basis. It cannot be demonstrated that national security against an Arab embargo would be increased by an immediate substantial reduction of consumption, nor can the optimum path of such reduction through time be identified.

Congress wants to concentrate reduced consumption in the area of gasoline, whereas the President's program spreads across all sectors by increasing the price of crude oil, petroleum products, and natural gas to the U.S. economy.

When a consumption target is established, it can be achieved by rationing at the end-use level, or by allocation to the distributors' level. Both rationing and allocation have been used historically—rationing in World War II, and allocation on a voluntary and mandatory basis since 1973 in the United States. The major problems in both the rationing and allocation schemes have to do with the equity issue—who shall give up consuming—and with the bureaucratic burden of the programs. An end-use rationing system would be extremely expensive to administer and would lead to a widespread black market and cheating. Also the decisions on who would get what are very difficult to make on any nationwide basis. The problem is substantially greater than it was in World War II. The number of cars is much greater, and society, in a locational sense, is now built around the automobile. The allocation system simply hides these problems by placing the burden for end-use rationing on the fuel distributor, and it is much easier to administer.

Another method of reducing consumption is through a comprehensive set of regulations with regard to energy consuming technologies. These regulations could range all the way from insulation standards in new and old buildings to required gasoline mileage in automobiles. Certain regulations are almost noncontroversial, but others raise very serious questions concerning economic efficiency and consumer choice.

There is considerable discussion of the use of taxes to reduce consumption. These could be in the form of tax penalties on low economy cars or tax benefits for insulating buildings. The tax system is a sensitive tool to achieve other than revenue ends, but it is a very cumbersome tool.

The fundamental issue, then, in consumption reduction is how much should it be reduced by direct societal action, and when that is answered, how should society achieve the goal that is established?

Import Reduction

The primary U.S. imports of energy are crude oil and related products, although there are small imports of coal and natural gas. The policy issue here is the level of petroleum imports. The major questions are: Should imports be held at a stated level, or should they be allowed to flow in response to market mechanisms; and, if they are to be reduced by interference in the marketplace, should that reduction be accomplished by quotas or tariffs?

With respect to the first question, the argument for import reduction rests on a national security base. It is argued that imports of petroleum from the petroleum exporting countries must be reduced to prevent the United States from becoming subject to political blackmail. However, the alternative of strategic storage, rather than import reduction, should be seriously considered. The import reduction alternative would deny the economy oil now as a price for being protected from not having future oil. The cost of immediate import reduction, especially in an economy which is unhealthy, would be great. The issue is: Must a quantitative target for import reduction be set and achieved regardless of cost?

Looking at means of import reduction, the alternatives available are quotas or tariffs. Quotas have the advantage of establishing a precise quantitative target which will not be exceeded, and the economic consequences of this reduction will be handled separately. The tariff system, on the other hand, has major advantages administratively, but has the disadvantage of not establishing a firm quantitative level of imports. Both systems would operate to increase the price of crude oil in the United States.

Pricing

The pricing issues relate to whether the prices of domestic sources will be allowed to rise to the import price, and will be controlled by the import price. New oil has been in that situation, as has coal. However, natural gas is controlled by the Federal

Power Commission, and old oil was under price control until August 31. Decontrol of natural gas and old oil will increase the average price paid by consumers in the United States; however, it will have a concurrent effect of increasing the incentives for expanding domestic supply. This is the crux of the pricing issue. Both Congress and the President seem to be opting for high-cost energy for conservation reasons, but they differ on whether the higher prices should go to the government to be redistributed through the federal budget, or to industry as an incentive for increasing supply.

Note that the United States seems to be in a “Catch-22” situation with respect to pricing—the policy is to raise prices in order to lower prices. Mr. Kissinger is urging a floor price (he has never said how high) to protect domestic investments in alternative energy supplies. It would seem much simpler to allow domestic prices to rise to import prices, and let the cartel understand that their current prices are too high to sustain their markets in the long run. Why protect now against predatory price cutting when action in response to such cutting, such as a tariff or selective subsidy, can be imposed when the time comes?

Supply Augmentation

If the pricing system were used as the supply regulator, the current high prices of oil, coal, and natural gas (decontrolled) would stimulate additional production. To give supply augmentation a chance to work, federally owned resources must be opened to exploitation. This means a very rapid development of the outer continental shelves for oil and gas, and the opening of the major coal reserves west of the Mississippi to use. In addition, efforts to develop synthetic gas from coal and improved nuclear technologies and perhaps extraction from oil shale will provide new supply sources in the 1990's.

At issue here is the method of developing federal energy resources. Should they be federally financed and controlled, or should the private sector provide the new supplies of energy? Obviously the result is going to be some mix. The traditional mix has been federal government research and development but private industry investments in productive capacity and production.

Environment

The issues about the environment lie in two areas—regulations with respect to the automobile and those with respect to mining and burning of coal. There are very substantial questions about how much control is required to meet the secondary health stan-

dards and the availability of the technology of that control. Legislation is before Congress to delay the imposition of these secondary standards, and also to delay the imposition of the emission controls on automobiles. This issue is one that raises major scientific questions concerning the current state of knowledge in the area, major technological issues, and major public policy issues on the trade-offs between energy consumption and environmental damages.

Utility Problems

There are major problems with the siting of utility plants, especially nuclear, and the difficulty of financing expansions in utility capacity. These problems can be handled legislatively, through something like the land use and energy siting bill that has been before Congress. On the financing side, they can be handled by changes in rate structures such as marginal cost pricing and allowances of rates of return adequate to attract the necessary capital.

A POLICY POSITION

There is no obvious "right" energy policy. What is indicated here are five basic postures which could serve as a policy position in this most difficult area.

1. Do not impose *new* additional taxes or tariffs to raise the cost of energy above that established by the OPEC cartel. The justification of this position lies in the fact that there appears to be no gain to national security from an immediate forced reduction in consumption. There is no immediate reason to impose additional burdens on the economy, or to undertake massive income pass-through operations in the federal budget, in order to reduce consumption. The best short-run policy seems to be to let the market system alone and see what happens.

2. Deregulate domestic energy prices. Price regulation imposes major distortions on the economy. Energy supply will not increase if prices are regulated. Only if there is no elasticity in domestic energy supply does the argument for price regulation to ration existing supplies make sense. The supply elasticity question cannot be answered definitively, but the weight of the evidence is that substantial supply elasticity does exist. The cost of testing that hypothesis is less than the cost of not exploring the avenue of additional supply.

3. Long-run supplies should be augmented by federal action. The federal augmentation of long-run supplies should take the form of opening up federal resources for exploitation, relaxation of environmental standards, the use of coal in the electric power field,

and a research program to find economically viable alternative sources of energy.

4. Undertake strategic storage for national security. No supply augmentation program and no forced conservation program can protect the nation against a boycott by oil exporting countries for at least the next five years. The only answer to the boycott problem is sufficient storage to allow the United States to impose allocation and rationing systems, if required, in face of a supply cutoff. The President has suggested that a billion barrels of oil (about 3 million barrels per day for a year) is an adequate supply for that purpose. In addition, the armed forces will need oil in storage at bases throughout the world, and the figure placed on that by the President is 300 million barrels.

Such storage targets should be immediately implemented. With price decontrol of domestic sources, there will be no price difference between the domestic oil and imported oil. As supply elasticity in imported oil is substantial, purchase of oil in open markets for storage should seriously be considered over the next year. This is the cheapest protection against a future boycott.

5. Certain institutional actions should be taken to increase the efficiency of energy use. While opposing at this time forced reduction in energy consumption, several things can be done which will reduce future consumption and increase efficiency, but which do not incur major current costs to the total economy. Taxing high gas consumption automobiles, encouraging insulation of new and old buildings, requiring labeling for energy efficiency on all appliances, and providing federal help in improving transportation systems all are actions which meet this criterion. These actions can substantially increase efficiency in use of energy, perhaps even over and above that generated by higher prices of energy. Their imposition would not increase unemployment or feed inflation. They should be urged.

CONCLUSION

This paper has reviewed the recent history in energy, characterized and critiqued the administration and congressional positions, identified some major energy policy areas and the issues involved, and proposed five principles for consideration in the area of energy policy.

The biases of the paper are to use the price system rather than direct regulation, to separate the energy policy from the rest of the economic and social policy issues that beset the nation, and to

argue against actions which would saddle the economy with excessive energy costs for a long period of time. These biases flow from an optimistic view of the world's energy resources. The world is not running out of energy. If that is so, there should be evolutionary institutional changes which will handle the energy problem. There is no need to abandon a free society, to drop the conception of free world commodity interchange, or lose the American dream of high level per capita income and affluence.