

An Economic Appraisal of President Carter's Energy Program

The Carter plan, like energy policy over the last 50 years, creates more problems than it solves.

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For the last 5 years there has been a uniform cry from concerned businessmen, environmentalists, oil people, and political figures calling for a "comprehensive national energy policy." National energy policy to date has consisted of a conflicting set of expedient measures, with domestic tax policies having the effect of subsidizing the flow of capital into petroleum production, while at the same time price controls have reduced profitability and tended to cancel out the first set of policies. Another tax policy has encouraged foreign oil production while import quotas prevented this subsidized production from entering the U.S. market. In the early 1970's the federal government forced public utilities to abandon coal-fired generators in favor of oil and gas turbines. Five years later the same government was mandating the opposite shift, at enormous social cost.

While a "comprehensive national energy policy" was obviously needed, very few people bothered to spell out in detail what set of policies they considered to be beneficial. Professional economists who specialize in energy research, as well as some spokesmen with a business orientation, had in mind policies which relied on the market forces of supply, demand, and price to allocate scarce energy resources among competing uses. But to political Washington, the cry for a national energy policy is interpreted as a demand for more government decision-making and less reliance on the market. Those who called for a "comprehensive national energy policy" and meant by it greater reliance on market forces must have been shocked when they read principle number one in the President's energy message. This first principle stated

that "we can have an effective and comprehensive energy policy only if the Federal Government takes responsibility for it . . ." (1, p.1). The essence of the President's energy message implements this first principle. Price controls for both oil and gas are not only extended to cover previously exempt areas, such as intrastate gas, but are also offered as permanent institutions (2, 3).

Professional economists who have specialized in energy economics almost to a man have argued for greater reliance on market forces and less government interference in energy problems. Their strong preference for market solutions is not because they are philosophical conservatives. Rather they are acutely aware of the poor record of government interference in the energy market. That record is one of massive and repeated resource misallocation. Adelman wrote about "this whole system of organized waste" (4), while Erickson and Spann described the energy crisis as a "policy induced" (5) crisis.

A Half-Century of Federal Energy Policy in Review

The record of government intervention on behalf of various interest groups in the energy industry is well known to economists specializing in this area. The past is prologue. Congress, in legislating energy policy, must become aware of its own record. Let us briefly review the record of major federal government energy policy intervention.

1) The percentage depletion allowance tax provision affecting oil, gas, and other minerals was introduced more than a half-century ago. One major effect was to increase the flow of capital into oil and gas exploration and production. This in turn increased the supply of petroleum from domestic sources and caused petro-

leum product prices to be lower than they would have been in the absence of this tax subsidy. This historically low price policy for energy led to both big cars and other evidence of wasteful consumption, and to premature depletion of the nation's resources. It contributed to the energy crisis of the 1970's.

2) Tax provisions allowing the expensing of intangible drilling costs for productive wells contributed further to excessive capital flows into oil and gas exploration. The results were the same as those indicated in point 1 above.

3) A third tax item, the foreign tax credit, stimulated a flow of U.S. capital into foreign petroleum exploration and therefore rapid production, artificially low prices, and more rapid resource depletion throughout the world. It also led international oil companies to enter other lines of business chartered in low-income-tax countries as a means of using excess foreign tax credits.

4) During the 1930's, in the name of "conservation," the groundwork was laid for production controls ultimately taking the form of market demand prorationing. This is a monopolistic device enforced by government on behalf of the oil industry and was designed to reduce domestic production in order to cause oil prices to rise above competitive levels. This policy therefore tended to cancel out some of the supply effects of the tax subsidies identified in points 1 and 2 above. Market demand prorationing was authorized by two laws passed by Congress, laws authorizing the Interstate Oil Compact and the "Connally Hot Oil Act" which provided the enforcement mechanism (6).

5) As another monopolistic device, in 1959 the Eisenhower Administration introduced mandatory oil import quotas having the effect of restricting petroleum supplies from abroad and thereby depleting domestic resources at a faster rate. Quotas were introduced at the insistence of independent crude oil producers, joined by coal producers, and over the opposition of the major international oil companies (7). Import quotas caused domestic crude oil prices to be about \$1.25 per barrel above the imported crude price until about 1971. The private interest need for import quotas followed from the efforts under market demand prorationing to maintain artificially high oil prices in the United States. Market demand prorationing restrictions on domestic supply designed to increase prices could not work for long without parallel restrictions on imports. At the same time, import restrictions prevented the free flow of imported oil subsidized

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by the foreign tax credit listed in point 3 above. This subsidized oil therefore flowed to Western Europe and elsewhere, benefiting either foreign consumers in the form of lower prices or foreign governments in the form of higher excise tax receipts at the expense of American taxpayers and consumers.

6) Natural gas price controls originated in a 1938 act of Congress. A Supreme Court decision in 1954 stated that Congress intended price controls to cover the wellhead price of natural gas flowing in interstate commerce. This action, as administered by the Federal Power Commission, continued the historically low price policy for energy. Prices were set below market clearing levels leading both to wasteful consumption and to the severe shortages in early 1977.

7) Price controls over crude oil and products were instituted in 1971 by the Nixon Administration. To the extent that oil prices are set below market clearing levels, product shortages have resulted. But there is an open-ended oil supply. Declining domestic production from a peak of 10 million barrels per day in 1970, down to about 8 million barrels per day currently, paired with increased consumption, is leading to vast increases in imports and consequent dependence and balance of payments problems.

8) With the introduction of multiple-tier pricing as part of price controls, a mechanism must be established to decide who is to be favored with low-priced crude and who must buy the high-priced imports. This led to an allocation program requiring that some firms sell crude and products to others. This is an income redistribution system that also distorts an efficient flow of resources.

9) In addition, the price control system led to politically perceived "inequities" between different refiners and between different parts of the country. Therefore, another offsetting income redistribution system was established called "entitlements" requiring that money in large amounts (about \$1 billion per year) be passed from one group of refineries to another. Even the President's document admits that the entitlements program is "an administrative nightmare" (8, p. 49).

10) Early in the present century a system of four naval petroleum reserves was established. The largest known reserve is Elk Hills in California. During the Arab oil embargo, Congress debated, but was unable to authorize, a single barrel of oil production from Elk Hills to alleviate the harsh economic effects of that embargo. Now that there is an apparent glut of oil developing on the West Coast

with the introduction of North Slope crude into this market, Congress has legislated production scheduled to expand to 350,000 barrels per day, thereby contributing to the West Coast oil glut.

11) In the 1920's Congress passed the Jones Act requiring that all marine shipments between two U.S. ports be on tankers (i) built in the United States, (ii) owned by American companies, and (iii) manned by American crews. This act has created a domestic monopoly position for each of the three interest groups covered. It now requires that consumers bear the added cost of Jones Act shipping for Alaskan crude oil. The 94th Congress passed the tanker bill that would extend Jones Act conditions to 30 percent of the oil imported into the United States from abroad. This was done at a time when surplus tankers were tied up all over the world. Compliance with the tanker bill would have required massive tanker construction in the United States, thereby contributing to the tanker surplus. It would also have imposed a burden on American consumers estimated at about \$2 billion per year. But for a presidential veto, the tanker bill would be the law of the land.

Perhaps the foregoing 11 items are sufficient to illustrate why energy economists have not been enthusiastic about additional governmental intervention in the energy market. This record does not lead one to be confident that the public interest will be served by additional government intervention. This record should surprise no one. Congress and the Administration must respond to dominant organized pressures. The President's first principle, suggesting that an effective and comprehensive energy policy requires that the government take responsibility for it, implies that government intervention in the future will wisely serve the general welfare, in contrast to the historical record.

Some Commendable Features in the President's Energy Program

The President's energy message contains several admirable statements and recommendations, from an economic efficiency point of view.

1) Allocation efficiency will be improved by the President's proposal to let the price paid by users of crude oil rise to the world price. However, this is only half of the market solution, which would allow both the demand price and the supply price to be set by the market rather than by the government.

2) A presidential directive requiring

federal agencies to purchase cars that exceed the average fuel economy by 2 percent in 1978 and 4 percent in 1980 appears to be commendable, as an economy measure.

3) Some of the reforms of public utility rate regulation will lead to greater economic efficiency in that regulated industry. First, peak-load pricing is long overdue. If implemented, it should shift power usage from normal peak-load periods and thereby reduce the need for new construction. Second, the President's proposal to phase out promotional rates and declining rates that are not justified by declining costs will contribute to greater efficiency. Third, the President's proposed prohibition on master metering for electricity in new multiple family or business structures will lead renters to economize on power usage. The present system of master meters in such structures leads renters to treat electric power as a free good and hence to use it excessively.

4) The President notes that oil and gas are now priced "below their marginal replacement cost and, as a result, the nation uses them wastefully with little regard to their true value." This is a true statement and one might take encouragement from the fact that it is enunciated by the President. However, in the next paragraph of his message he states that "the residential sector is sheltered as the plan would keep natural gas prices to residential users down and provide tax rebates for home oil use" (1, p. 15). It is clear that his policy recommendations perpetuate the very problem that he has so well identified.

5) The President's proposal seeking legislation to limit production from the Elk Hills Naval Petroleum Reserve to a ready-reserve level until the West-to-East transportation systems for moving Alaskan oil surplus are in place, and until California refiners have completed a major refinery retrofit program to enable more Alaskan oil to be used in California, is commendable. The proposal could be improved by eliminating its temporary character and placing the Elk Hills Reserve in a permanent, fully developed standby reserve position.

6) The exemption of shale oil from the President's proposed price control system will enable oil production from our vast shale oil reserves to proceed whenever cost and market conditions justify such production.

7) The President's proposal to expand the strategic petroleum reserve to the point where the nation could withstand a 10-month supply interruption appears to be desirable. With this reserve the nation

could accept a relatively high level of imports from the Middle East. While this policy will involve balance of payments problems, it is at least consistent with the fact of life that the large remaining known reserves of crude oil are in the Middle East and not in the United States. It enables us, with reduced risk, to delay developing major supplies of very high cost energy sources as alternatives to imported crude oil.

8) After observing that the present gasoline price control system is inoperative (prices are determined by competitive conditions), the President wisely recommends gasoline price decontrol.

Some Questionable Policy Proposals

In addition to the recommendations noted above, which appear to offer greater resource allocation efficiency, there are other recommendations that might possibly be worthwhile on efficiency grounds. The plan calls for a large number of programs that all suffer from a common fault—they are not supported by evidence showing that their social benefits exceed their social costs. These programs include the following:

1) New cash subsidies for individuals, home owners, schools, and hospitals to finance weatherization and the installation of miscellaneous "approved conservation measures."

2) New tax subsidies to business to encourage installation of "qualifying solar equipment," "approved conservation measures," and "co-generation equipment."

3) Federal investments in van pooling (6000 vans to be purchased) for use by federal employees in commuting to and from their jobs. The fact that large-scale unsubsidized van-pooling arrangements have not been successful leads to the suspicion that the self-supporting feature of this proposal will not materialize.

4) In the event that voluntary programs fail to achieve prescribed results, then mandatory measures are proposed relative to weatherization, efficiency standards in new buildings, and home appliance efficiency standards.

The economic problem in all these proposals is that subsidies and governmental force will likely cause scarce resources to be allocated to uses that have a low or negative rate of return to society, unless net external benefits are present. External benefits accrue to society at large, rather than to the individual or business decision-maker. There is no showing of net external benefits in the

President's analysis. Where either subsidies or force lead to resource misallocation, the standard of living of the people will be unnecessarily low. Before Congress enacts any of these measures, it should require evidence that the discounted present value of the benefits exceed the costs.

One of the above measures may be used to illustrate the problem. As a force measure, Congress is considering legislation that would prohibit the sale or refinancing of any home not meeting prescribed federal insulation standards. A decision to insulate a home should be based on the present costs of insulation and the flow of future savings. If costs exceed benefits, such investments should not be made. An exception occurs if there are net external benefits. None are obviously present. If this calculation is distorted by artificially low prices for gas or other energy input, then the obvious correction should be to eliminate the source of the distortion—the current price control system. The President's program perpetuates this problem by extending gas price controls and making both gas and oil price controls permanent.

Costs and benefits will differ widely by geographical area, age of the house, difficulty of retrofitting, temperature preferences of individuals, and the like. In the absence of net external benefits, home insulation decisions should be made by home owners, not by a distant Congress.

Some of the President's Proposals Are Counterproductive

The President proposes two extensions of existing tax subsidies.

1) According to the President's plan, some independent oil and gas producers have been deprived of a portion of the tax reduction enacted in 1976 for the expensing of intangible drilling costs. As a solution to this problem, he proposes that the intangible drilling cost expenditure provision be liberalized. However, further liberalization of tax subsidies will make oil production more profitable after taxes. This is in conflict with the President's own price control measures, which are designed to restrain profitability. Further, a tax subsidy, unsupported by evidence of net external benefits, leads to overinvestment in the subsidized industry and to resource misallocation. Instead of further liberalization, Congress should consider eliminating existing legislation which permits expensing of intangible drilling costs for

productive wells and requiring instead capitalization of such expenditures. This provision, of course, should be applicable to all oil and gas producers equally. In a similar vein, complete elimination of percentage depletion allowance for all mineral production, regardless of firm size, should be considered by Congress.

2) In addition, the President proposes that expensing of intangible drilling costs as a tax stimulant be made available to geothermal energy production. The reasoning above applies here also. Further, a tax subsidy for geothermal energy places alternative energy sources including, for example, solar, wind, and fuel from waste at a relative disadvantage. Instead of extending tax subsidies to additional energy sources, a preferable policy would be to eliminate such non-neutral tax provisions from all present applications.

Strong endorsement is given by the President to the amendments to the Outer Continental Shelf Lands Act now being considered by Congress. Currently available economic research shows that the competitive bonus bidding system now in effect has produced more than fair market value to the government and has introduced a low level of inefficiency into the production process. In recent testimony before the House of Representatives, evidence was presented indicating that the proposed amendments to alter the bidding process would be counterproductive in that they would cause valuable petroleum resources to be left in the ground and the public would receive lower payments from lessees. This lengthy evidence is available (9).

The quality of the economic analysis supporting the President's program appears to be poor. First, the analysis argues that "Without constraints, U.S. oil demand probably would grow at the postwar rate of 4 percent per year, and reach 25 million barrels per day by 1985" (8, p. 11). This projection appears to assume that the demand for oil has a long-run elasticity of zero, a highly unlikely condition. Price appears to have been ignored in the analysis. In the absence of intervention, the price of crude oil would be about \$14 per barrel, currently, compared to about \$3 per barrel when the postwar consumption growth rate used in the above quotation was being established. At higher prices prevailing under uncontrolled conditions, people will economize (conserve), and consumption growth rates will be reduced.

Second, the analysis sets out to reduce "energy consumption." This is a myopic

view of economic problems. Conservation, as an economic problem, requires that *all resources* be conserved, not just energy. Policies that use tax incentives and the allocation power of government to mandate reduced energy consumption lead, through resource substitution, to higher consumption of other resources (copper, insulation, steel, and the like) as if they had no value. Such policies are counterproductive with respect to resource conservation. This "energy myopia" is an unfortunate and serious economic flaw in the energy plan.

Price Controls Create Shortages

The most important issue in the President's energy plan is price policy. Two major alternative policies are available. First, the price system can be allowed to allocate scarce energy resources among competing uses with government interference limited to correcting for significant externalities. This would also constitute a "comprehensive national energy policy." Second, price controls can be retained with the government making the important economic decisions about energy prices and about who is to be favored with artificially low-priced energy. The President clearly chooses the second alternative. "The President is committed to the retention of domestic oil price controls for the foreseeable future . . ." (I, p. 15). For natural gas, the President proposes that price controls be extended to include intrastate natural gas as well as synthetic natural gas.

The nation has had a long history of periodic experience with price controls. In the case of natural gas, the Federal Power Commission has controlled wellhead prices of interstate gas since 1954. These controls have created massive shortages. As a result, consumers of natural gas who have gas hookups are able to buy gas at low prices and use all they desire while others cannot buy gas at any price. This growing shortage became acute early in 1977. Further, one can accurately forecast that, if controls are continued, the shortage will increase in severity.

After noting, first, the inconsistency in the present system which permits gas transported in intrastate commerce to be free of federal price controls while the wellhead price of gas flowing in interstate commerce is subject to control by the Federal Power Commission (8, p. ix), and second, that, under FPC control, natural gas "is now the Nation's most

underpriced and oversold fuel" (I, p. 16), one would expect that the President would call for decontrol of new natural gas supplies. Instead, he recommends the opposite, that wellhead price control be extended to include intrastate gas. This policy is recommended as "an important first step toward deregulation" (I, p. 16). He proposes that all new gas be subject to a price limitation based on a Btu (British thermal unit) equivalency which is estimated to be \$1.75 per MCF (thousand cubic feet) at the beginning of 1978. However, even at 1 June 1977 prices, a Btu equivalency would require a natural gas price of about \$2.35 per MCF on the basis of import prices for crude oil, and \$3.15 on the basis of heating oil prices. Therefore, even ignoring any cleanliness or convenience premium that the market would automatically accord to gas, natural gas would continue to be "the Nation's most underpriced fuel."

In addition to expanding the regulatory burden to include intrastate gas, the President proposes a complex and expensive six-tier system of controls with price distinctions based on (i) new gas, (ii) old interstate gas subject to existing contracts, (iii) old interstate gas made available at the expiration of existing interstate controls, (iv) the same class of gas formerly sold in intrastate commerce, (v) "specific categories of high cost gas," and (vi) synthetic natural gas.

The foregoing are producer prices. As soon as the government intervenes to set prices below market clearing levels, then a nonprice rationing system becomes a necessity. All consumers will want to receive gas at the lowest tier price. The government must then decide which users are to be the favored buyers. This adds to the expense of administration and results in a political rather than an economic allocation of resources.

Further, the President proposes an incredibly complex and confusing system of user taxes. First, industrial users (except fertilizer manufacturers and "certain agricultural users") would be subject to a 30¢ per MCF tax in 1979, increasing to an "average tax" of \$1.10 per MCF. Second, the tax liabilities of fertilizer manufacturers and "certain agricultural users" are unspecified. Third, utility users of natural gas would pay a tax beginning in 1983 sufficient to raise their cost of gas to 50¢ per MCF below the Btu equivalent price of distillate, increasing by 1988 so that their cost of gas would equal the cost of distillate. Since gas has the advantages of cleanliness and capital cost saving, it would remain a

bargain for all three users listed above. In the long run, these taxes would be paid by consumers. Fourth, no tax is specified for residential customers for whom prices are to be kept low. A rationing system would be established requiring that the more expensive gas be allocated to industrial users, not to residential and commercial users. By keeping gas prices low for consumers, normal incentives leading toward home insulation and toward solar heat applications are reduced.

The economic problems of this price and tax control system for gas are legion and observable from past experiences. A large bureaucratic burden would be required to administer the system. This must be paid out of lower living standards. Appeals must be heard from user interest groups who want to obtain low-priced gas and from producers who want to qualify for higher selling prices. Wasteful consumption of a valuable non-renewable resource will continue because prices for all uses are held below market clearing levels. Scarce gas resources are forced into less efficient uses, thereby retarding normal improvements in living standards.

A simple alternative involving insignificant administrative and resource misallocation cost is available—let the market allocate this scarce resource by (i) not extending control to intrastate gas, (ii) immediately decontrolling all newly discovered interstate gas, and (iii) phasing out over a period of not more than 5 years all controls on the price of existing interstate production. This also is a national energy policy.

The President appears to be proposing four tiers of oil price controls. First, the present price of \$5.25 per barrel for "old oil" is to be continued. Second, it is proposed that the present fixed price of \$11.28 per barrel be continued. This price category has included what has been called "new oil." The designation now proposed by the President is "previously discovered oil."

Third, another price category to be called "newly discovered oil" is to be given a fixed "current world price." All three tiers are subject to general inflationary price increases. Newly discovered oil is defined as oil from a well drilled more than 2.5 miles (1 mile = 1.6 kilometers) from an existing onshore well as of 20 April 1977, or more than 1000 feet (1 foot = 0.3 m) deeper than any well within any 2.5-mile radius. New oil offshore will be limited to oil from lands leased after 20 April 1977. This artificial distinction will guarantee that all

new wells will be drilled at least 2.51 miles from an existing well. It is a wasteful and counterproductive rule.

As a fourth tier, incremental tertiary (not including secondary) recovery and stripper oil production is to be free of controls. This provision, viewed alone, is welcome. However, as part of a four-tier producer pricing system, it is difficult and expensive to administer. Further, producers have learned from repeated past experience that rules can be changed by the government after investments have been made. There is a credibility problem.

The four tiers of price controls described above are producer prices. Market prices are to be allowed to rise to world oil prices, and the difference between the producer and market price is to be collected by the government in a four-tier taxation system.

The Price Control Dilemma

The dilemma in which government finds itself arises out of the fact of a four-fold increase in the price of crude oil beginning about 1973. This fact has led to two governmental "hang-ups." One is based on "windfall profits," the other, on the impact on the poor.

For all remaining oil reserves existing at the time of this price increase, substantial inventory profits would occur as a result of the large increase in crude oil prices. These profits would be shared by private and government landowners (not oil companies) in the form of royalty payments, and lessees consisting of about 10,000 crude oil producers. The term given to this class of inventory profit is "windfall profit." It refers to an unexpected gain in value. It is more of a derogatory term than a precise economic concept. The concept is of questionable public policy usefulness for the following reasons:

1) For all oil discovered on leases purchased after about 1974 when prices reached their present level (adjusted for inflation), the term windfall gain would not be appropriate if applied to producing oil companies. It would apply to the royalty interest, but in most cases this will be federal or state governments.

2) Apart from the politics involved in the windfall gain terminology, it is not clear from the point of view provided by economic analysis that there are windfall gains even for reserves existing prior to 1973. Oil is a nonrenewable resource. It is possible that owners of oil reserves have long been expecting price increases.

During the 1950's and 1960's any expected price increases failed to materialize. From 1950, when crude oil prices averaged about \$3.07 per barrel, to 1977 when prices of imported crude amounted to about \$14, the real price of crude oil (adjusted by the wholesale price index) increased at a compounded annual rate of 3.29 percent. This corresponds closely with the average real rate of return on capital over many years of U.S. history. It is possible that, in 1950, owners of oil resource did in fact expect this kind of gain. The problem is, the gain failed to appear from 1950 through 1970, then in 1973 it came suddenly.

3) If the government is to use the windfall gain concept as an excuse for price controls then why single out crude oil prices when some other prices have also increased sharply? Spot prices of coal and of Douglas fir timber, for example, have both increased fourfold since 1967. Similarly, spot uranium prices (yellow cake) have increased in about the same proportion.

4) How long are prices to be controlled in the name of historical windfall gains? The longer that prices are controlled, the greater are the distortions and the greater the accumulated cost of administration, both for the government and for complying industry. In the case of natural resources that have reached points in their production life cycle where the cheap sources have all been produced and only high cost sources remain, the price behavior to be expected is that of rising prices. This, in fact, is the way a price system automatically plans the allocation of increasingly scarce resources. Higher prices are needed to lead people to conserve and to search out substitutes. The longer that price controls are retained, the further from reality they become and the harder it is to dispense with them.

The second hang-up concerns the impact on the poor as a result of a sharp increase in the cost of crude oil and consequent product price increases. In order to avoid an adverse impact on the poor, government policy has sought to suppress price increases by using crude oil and natural gas price controls. This is an income redistribution policy. But it also distorts the flow of resources in the economy.

The income redistribution effect is haphazard. For example, poor people who do not have a natural gas hookup do not benefit by artificially low prices of natural gas, but owners of large houses with winter gas heat and summer gas air conditioning, plus swimming pools

heated by gas, benefit immensely. The lesson to be learned from this experience is simple—do not adopt policies which have major resource misallocation effects in order to accomplish an income redistribution objective. Rather, if additional financial aid to the poor is desired by the nation, adopt policies that directly and efficiently (not haphazardly) serve that objective.

If the government finds it impossible politically to adjust to the new realities of crude oil prices, then the burden which we all will pay is continued price controls. The consequences of continued price controls for the nation as a whole are the following:

1) As price controls have been administered to date, they have created shortages, particularly acute in the case of natural gas.

2) The incentive to supply oil and natural gas from domestic sources is reduced. In the case of oil price controls, there is an open-ended supply in the form of imports. This leads to artificially high levels of imports and consequent balance of payments problems.

3) Price controls involve administration costs in the form of allocations, entitlements, price policing, auditing, and the like. These administrative costs are not limited to government administration but include compliance costs imposed on industry. Whether the administrative costs of control are paid by government and thus taxpayers, or by industry, the social cost is the same. Valuable and productive people are diverted from alternative uses in order to administer and comply with the regulations. For the 1977 fiscal year, the Federal Energy Administration (FEA) alone employed 3478 people. The FEA budget, excluding costs for the strategic petroleum reserves, amounted to \$158 million or \$45,000 per employee. Rough calculations of the cost borne by the oil industry for compliance with FEA regulations indicate an annual charge of about \$500 million. This, together with the FEA administrative cost, imposes a total social cost on the nation of approximately \$650 million per year. It must be emphasized that this cost is both a private and a social cost, and it is only a small part of the government energy control cost. The resources involved have alternative uses. Talented and well-educated people are diverted from more productive uses of their time.

4) When social costs are increased as a result of a control system without corresponding social benefits, economic growth and advances in living standards

will be retarded. Resources that are devoted to a control system cannot be simultaneously used to produce other goods and services. One cannot argue that the talented human resources employed by the control system would draw from a pool of unemployed. For example, the system would employ a multitude of lawyers and economists. But there is no significant unemployment in either professional group. The present declining 6.9 percent unemployment rate consists primarily of unskilled labor.

The energy message asserts a contrary result claiming that the program would increase the GNP (gross national product) by 0.7 percent in 1978 and stimulate about 100,000 jobs by 1985 (1, p. 3). Given the mandated and tax-stimulated reallocation of capital away from uses to which such scarce resources would flow in response to normal market incentives, these favorable results are most unlikely. A recent analysis by Chase Econometrics, an economic forecasting organization, indicates GNP and employment consequences that are more realistic and in accord with economic theory. The Chase analysis concluded that "The overall effect of the energy program for the period 1978-1981 will be to reduce real GNP growth by 0.2% per year [and] raise the unemployment rate by an additional 0.1% per year . . ." (3, p. 2).

What are the offsetting benefits for this annual cost? Appraisals of the social benefits of FEA have indicated negative results. A recent study by the Rand Corporation concluded that "controls have not reduced the prices of refined products" (10). Instead, "refiners of controlled oil receive a profit transfer from the producer of the oil, but those profits are retained by the refiner" (10). Another study by Mancke concluded that "current energy policies have failed to alleviate any of our four energy problems. . . . In fact, they have actually worsened each of these problems" (11). Most recently, the President's Task Force on FEA regulations thoroughly reviewed the record and concluded that "FEA regulations as they now exist confer few, if any, benefits on the public. . . . In return for this lack of benefits and sense of false security, the American businessman, the taxpayer, and the petroleum consumer must incur higher costs than might otherwise be the case.

Indeed, continuation of the present regulatory mechanism will result in long-run inefficiencies for the American economy" (12).

The system of price controls has distorted crude oil prices at the expense of producers and to the benefit of refiners. It has also shifted wealth between sections of the country, principally benefiting the New England area at the expense of other regions. If there are any positive contributions resulting from the system, they do not appear to be in the area of resource allocation but rather are in the area of income redistribution. Any such income redistribution benefits are highly dubious. Instead of extending price controls to cover additional energy sectors as proposed by the President, and instead of making price controls a permanent institution in this country as recommended by the President, Congress should move to phase out price controls.

Conclusions

1) The universal cry for a comprehensive national energy policy is a cry of frustrated desperation reflecting a history of inconsistent, conflicting, and counterproductive energy policies.

2) The federal government has interpreted this cry as a public demand for more federal intervention in the energy market.

3) An examination of the energy policy record leads to the conclusion that past policy has not served the general welfare. Instead, government has responded, as one should expect, to dominant organized pressures from the oil industry, the coal industry, labor unions, environmental groups, special consumer interests, and the like.

4) There is no evidence to suggest that government behavior in the future will differ from the past. Political incentives are unchanged.

5) The comprehensive national energy policy that most professional economists specializing in the energy area appear to favor is one which limits government intervention in resource allocation to correcting for clearly demonstrated significant externalities. Otherwise, the market, not government, should be allowed to allocate scarce resources among competing ends.

Summary

An analysis of 11 major federal energy policies of the last half-century indicated a record of conflicting and counterproductive government policies. These policies contributed heavily to the energy crisis. The essence of the President's energy plan is more government interference and less reliance on the price system. Crude oil price controls are to become permanent, and natural gas price controls are to be extended. This requires that government decide who gets the low-priced energy, who pays high prices, and who increasingly goes without. Government energy policies have historically reflected dominant organized pressures.

References and Notes

1. The White House, "Detailed Fact Sheet, The President's Energy Program," 20 April 1977, p. 1.
2. The scope of this article is limited by the space available. The President's energy plan is comprehensive indeed. This article will consider select policy issues that are of special interest from an economic viewpoint. Two major elements in the plan (the "gas guzzler" tax and the "stand-by gasoline tax") are ignored. The reasons are twofold: (i) neither provision appears to have any significant chance of being enacted, and second, according to a Chase Econometrics analysis, "even if Congress were to pass the gasoline tax, the probability is fairly high that it would never be initiated" (3, p. 17). This conclusion is based on the reasonable assumption that the short-term price elasticity of demand for gasoline is between -0.1 and -0.2. The probability of congressional passage of the "gas guzzler" tax is reduced by strong opposition from organized labor (especially the United Auto Workers). Also, clear consumer resistance to both taxes is apparent to Congress.
3. Chase Econometrics, "Forecast of April 27, 1977, Analysis".
4. M. A. Adelman, "Efficiency of resource use in crude petroleum," *South. Econ. J.*, 31, 101 (October 1964).
5. E. W. Erickson and R. M. Spann, "The U.S. petroleum industry," in *The Energy Question, An International Failure of Policy*, E. W. Erickson and L. Waverman, Eds. (Univ. of Toronto Press, Toronto, Canada, 1974), vol. 2, p. 7.
6. See S. L. McDonald, *Petroleum Conservation in the United States, An Economic Analysis* (Johns Hopkins Press, Baltimore, 1971); and W. F. Lovejoy and P. T. Homan, *Economic Aspect of Oil Conservation Regulation* (Johns Hopkins Press, Baltimore, 1967).
7. Office of Defense Mobilization, Hearings in the Matter of Petroleum. Washington, D.C., 22-24 October 1956.
8. Executive Office of the President, *The National Energy Plan*, Washington, D.C., 29 April 1977.
9. Testimony of W. J. Mead before the U.S. House of Representatives Ad Hoc Select Committee on Outer Continental Shelf, 19 May 1977.
10. C. E. Phelps and R. T. Smith, *Petroleum Regulation: The False Dilemma of Decontrol*, Report R-1951-RC (Rand Corporation, Santa Monica, Calif., 1977), pp. v and vi.
11. R. B. Mancke, *The Failure of U.S. Energy Policy* (Columbia Univ. Press, New York, 1974), p. 162.
12. P. W. MacAvoy, Ed. *Federal Energy Administration Regulation, Report of the Presidential Task Force* (American Enterprise Institute, Washington, D.C., 1977), p. 146.