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## **CARTER'S ENERGY PROGRAM**

President Carter has proposed a comprehensive program to deal with the energy crisis. The major features of his package include the following specific proposals:

- \* A tax on mileage of inefficient automobiles coupled with a rebate on high-mileage automobiles.
- \* A standby tax on gasoline to be used if certain consumption targets are not met, to be imposed in 5¢ increments to maximum of 50¢ per gallon.
- \* A wellhead tax on the price of old oil raising it to the current controlled price of new oil beginning in 1979, and a gradual rise in the price of all new oil to the 1977 world market price.
- \* Bring all newly discovered natural gas under the auspices of federal price controls with a ceiling of approximately \$1.75 per mcf. initially. The ceiling would be established by tying the price of gas to the acquisition price of oil in BTU equivalents.
- \* The imposition of a tax on the industrial use of oil or natural gas except for certain industries where those fuels are an essential part of a process.
- \* Strict environmental controls including the requirement that "best available technology" be used and strict controls on strip mining.
- \* Requirements that utility companies do away with declining block rates and institute charges for the use of electricity during periods of "peak loads."
- \* Requirements that utilities share power with other utilities when their facilities are not fully in use.
- \* Requirements that utility companies offer the installation of home insulation and financing for that installation to their customers.

- \* Tax credits for conservation improvements and tax subsidies for non-profit institutions which wish to retrofit such improvements.
- \* An outright ban on the Liquid Metal Fast Breeder Reactor, and a streamlining of the process of licensing of nuclear facilities.
- \* Mandatory conversion to coal for most electric power generation and industry by 1990.
- \* New requirements for reporting by oil and gas producers, including information broken down by function and by domestic and foreign operations, coupled with strict enforcement of antitrust laws.

President Carter's call for a comprehensive energy policy at the federal level demonstrates a real understanding of the seriousness of the energy crisis. For too long we have taken for granted cheap bountiful energy sources. The result of this indifference to a rapidly escalating rate of energy consumption is being felt today in higher prices and chronic shortages. The President's call for strict conservation measures is long overdue. In the short run, there is little doubt that such measures can go a long way towards softening current hardships created by the short-run lack of supply. While there is much to commend in the President's energy proposals, there is one overall deficiency in his package. This is that the President's advisors have completely ignored the supply side of the equation for all intents and purposes.

In presenting his energy program to the American people, President Carter has made it clear that he will attempt to solve our energy problems through more government regulation rather than through market forces. He has also made it clear that his program will concentrate almost exclusively on forcing down demand. In doing this, grave problems in terms of unemployment and increased inflation could result.

Historically, petroleum has been particularly price-elastic. If adequate incentives are not allowed, it is unlikely that supplies will reach their true potential. Given our current situation with both oil and natural gas, it is obvious that adequate incentives have not existed. To freeze the price of oil and natural gas at their current levels is simply to insure a continuing shortage of these resources. A far more effective strategy would be to decontrol prices and to allow the market to find its own price. The outright ban on development of the LMFBR is another aspect of the Carter program which does not make sense at this time of crisis. Other nations are developing such facilities, and it is certain that breeder reactors will play an increasingly important

role in the world energy outlook in years to come. The only result of our abandonment of this energy source is that we may find ourselves in the position of having to purchase such facilities from France or Germany in future decades.

While there are other aspects of the President's program which may be called into question, perhaps the most important factor is that it is at least an attempt to deal with a very real problem. There is little doubt that major changes will be made when the Congress begins its deliberations, but whatever the final result is, we can be thankful that a dialogue has opened.

CARTER'S ENERGY PROGRAM:  
ANALYSIS AND ALTERNATIVES

Overview

President Carter is proposing vast changes in our nation's energy policy. Depending heavily on tax penalties and incentives, the Carter proposals are destined to make energy consumption far more expensive for the American public. Included in the proposal are increased gasoline taxes, taxes based on automobile fuel consumption, taxes on the wellhead price of domestically produced oil, taxes on the industrial use of natural gas, and taxes on the industrial use of oil. Conversely, tax incentives for the conversion of home heating units to solar power and for above average gas mileage are also part of the President's package.

Gasoline Taxes: Summary

The President has proposed a standby excise tax on gasoline which could reach 50¢ per gallon within ten years. Beginning in January of 1979, a 5¢ per gallon tax would be imposed each year in which consumption of gasoline rose by 1% over the base period which would extend from October 1st to September 30th. After 1981, the criteria for imposition of the tax will be altered. Instead of calling for an increase in consumption to trigger an increase in the tax, the failure of gasoline consumption to decline by 2% over the base period acts as a trigger. The proposal also calls for a tax credit in the amount of the tax to help soften the impact it will have.

Analysis

One of the initial problems suggested by the President's proposal is that it will be highly regressive. Even with the inclusion of a provision for a tax credit, the impact on lower income wage earners will be considerable. Besides

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the direct costs, there are a number of other costs which must be considered. For example, there is the question of opportunity cost. Even if the gasoline tax were rebated in toto, which is unlikely, the wage earner would still have to wait until he filed his income tax returns in order to be eligible for the rebate. This means there would be less money at his disposal during the course of the year. In some instances it could impose considerable hardships. For example, an average driver, putting in the neighborhood of 16,000 miles per year on his automobile, would pay an extra \$50 per year for each additional increment of the tax if he owned a late-model car which got 16 mpg in city driving. This means that with the full tax imposed, the driver would have an additional \$500 per year in taxes just from the increased price of gasoline. If the driver were at the lower end of the income scale, this could amount to a substantial burden. Further, it should be noted that lower-income families are far more likely to own less-efficient older model automobiles than are upper-income families.

A second problem area lies in the impact of the gas tax on the already serious problem of capital formation. It has been estimated that each additional 1¢ increment of tax on gasoline raises the overall tax burden by \$1 billion. Therefore, with each incremental increase in the gas tax under Carter's proposal, the capital market will lose approximately \$5 billion. Projections by Chase Econometrics, Westinghouse, and the New York Stock Exchange indicate that we are suffering from an annual shortfall of fifty billion dollars.

The effect of the tax could be to double our current capital shortfall over the next decade.

The President has also failed to make reference to the impact of the gas tax on rural areas. Rural areas do not enjoy the availability of mass transit systems, and therefore the major means of transportation is the automobile. The gas tax would place an undue burden on those who do not live in urban areas. It should be noted these individuals frequently are at the lower end of the income scale and therefore more likely to suffer hardships.

Finally, there is the question of just how effective a tax would really be and whether its secondary impacts outweigh its worth. Nearly every estimate of the effect of increased gasoline prices on consumption has indicated that until such time as the price goes above \$1 per gallon, consumption will not be curtailed. It is obvious that increasing the price of gasoline so drastically will have a number of secondary effects, such as increased inflation and ancillary unemployment. While other alternatives more oriented towards a free-enterprise solution to the oil-consumption problem might eventually lead to somewhat higher prices, it is doubtful their impact would be as severe as the tax because increased revenues from such solutions would generate capital for exploration, development and research.

#### Alternatives

Perhaps the most obvious alternative to the imposition of increased gasoline taxes is simply decontrol of the price of oil. There are two basic advantages to decontrol: First, since the current price of gasoline has been kept artificially

low by price controls, decontrol will allow it to reach a more realistic level; secondly, decontrol will also allow for capital formation. It is the second factor which is of prime importance. To a large degree, our current shortages of both oil and natural gas are due to the artificially low prices federal regulations have imposed on these important energy sources. The disincentives created with regards to exploration and development are heavily contributory to our current energy dilemma. Further, given our current capital shortages, these disincentives cannot be reversed unless crude oil and gasoline prices are allowed to seek their natural level.

A second alternative which has been suggested would be to impose gasoline rationing through a system of gas stamps. A so-called "white market" in the stamps would be allowed so that again gasoline prices would effectively be allowed to seek their own level. One of the drawbacks to this type of proposal is that it makes no allowance for the creation of additional capital. Further, there would in all likelihood be widespread incentives for illicit activities in connection with the stamps.

#### Fuel Consumption: Summary

A second part of the Carter Energy Program is a tax on what are termed "gas guzzlers." By this the Administration refers to automobiles which get fewer miles per gallon than a specified level. Generally, the tax will be based on the mileage standards which have already been set by the federal government. Currently, standards require that 1978 model year autos produced by a given manufacturer must average 18 mpg, and by the mid-1980s the manufacturer's products must average 27.5 mpg. There is also a tax credit for automobiles which obtain consumption levels higher than the standard. Initially the tax would range from a high of \$412 on autos which get less than 10 mpg to a tax credit of \$332 on cars which get 39 mpg. By 1985, the maximum tax would range as high as \$2,500 and the maximum credit would be \$500.

It has also been suggested that the Administration will call for the tightening of testing requirements to determine mileage and through this action effectively increase the standards by approximately two miles per gallon at each level. This change would necessitate the amendment of current enabling legislation.

It should be noted that these taxes will be paid by the manufacturer, and the credits for higher mileage will be collected by them. Refunds will not be allowed to exceed the dollar amount of collections. Further foreign manufacturers, while eligible for refunds based on their product's mileage, will be eligible only if their sales do not exceed the level attained in the year previous to the taxes' imposition.

### Analysis

There is some question as to whether the Carter proposal is of any real value. Most auto manufacturers are increasing production of small- and intermediate-sized cars which will easily meet the mileage requirements. In fact, last year's General Motors production averaged 18.9 mpg, a figure in excess of the 1978 standards. The only GM models which would have been affected by the tax would have been the large model Cadillacs and a few special-option high-performance engines. According to auto industry spokesmen, mileage is expected to increase even further with the introduction of certain new engines and with the further reduction of overall weight. It therefore becomes uncertain as to what the intent of the mileage tax is.

Since collections of the rebate are limited to the dollar amount of penalties paid, there is likely to be little real incentive created by the tax. It may have the effect of increasing the overall cost of operation, however, as there will undoubtedly be numerous forms and paperwork associated with it.

Another serious problem lies in the provisions limiting the extent of rebate which the foreign car manufacturers will be eligible to collect. There are numerous trade agreements and treaties, especially with Japan, which would possibly be violated by this proposal. It clearly constitutes a quota and is bound to have international repercussions. It has been suggested that this part of the proposal is intended to act as an incentive for U.S. labor support of the measure.

It is interesting to note that the alleged decrease in purchases of small cars was not as great as would be indicated by media reports. By 1975 the small car class, which consists of subcompact, compact and luxury small sports cars, represented 43.1% of the total auto market in the United States. In 1976 this figure declined by roughly 4% to 39.9%. The difference, however, was taken up almost entirely by increased sales of intermediate-sized cars. For the same two years, sales of standard-sized cars remained virtually unchanged. It is significant that intermediate and compact cars, those with the highest mileage ratings, shared roughly 73% of all sales in 1976. Further, when all automobiles are considered, the low-mileage "luxury" cars only accounted for 5 to 7% of overall sales.

Also, in European countries, where similar taxes have been imposed, consumption has not been significantly reduced. This raises the question as to the potential effectiveness of the proposal which the President has failed to address. It would be a waste of both time and money to initiate all of the bureaucratic machinery necessary for the imposition of such a tax if it is to be of no real use. Further, it seems to be the case that the real purpose of the tax is its publicity value. The Administration would be better to put their efforts into real solutions.

### Alternatives

It is doubtful if the tax-penalty approach holds any real value in conserving gasoline. The credit approach, however, may be a useful tool both to encourage the purchase of automobiles which are more fuel-efficient and to stimulate the economy. Our current energy shortage is real; and, in the short run, conservation should be encouraged. It has been estimated that widespread use of higher mileage automobiles could result in substantial reductions of oil consumption. For example, an estimate by the Federal Task Force on Motor Vehicle Goals Beyond 1980 indicated that an increase in the new car fleet equivalent to an 80-90% improvement in 1975 mileage would result in a 25% reduction in oil consumption. This would amount to approximately 1.3 billion barrels per day. Encouragement of the production and purchase of high mileage automobiles through a tax credit could assist in attaining this goal.

The development and introduction of automobiles capable of meeting a goal of this nature, however, will require an increase in capital expenditures of between 15% and 20%. This sort of influx of capital will not occur in an atmosphere of heavy tax penalties. Since the nation will receive benefits far in excess of the cost of capitalization, there is adequate justification for tax incentives to encourage this type of investment.

An obvious method of increasing mileage is to reduce some of the more stringent pollution requirements. It is estimated that a 1974 automobile gets from 5 to 15% poorer mileage than a 1970 model as the result of pollution control equipment. While some improvements in mileage have resulted with the introduction of the catalytic converter, there remains a deficit in attainable mileage which may be attributed to pollution abatement. It is estimated that removal of pollution abatement equipment will result in from 1 to 2.7 billion gallons of gasoline per year. It should be noted that certain variations on this idea have been introduced before the Congress from time to time. The most feasible is one which would allow the removal or de-activation of pollution control equipment in areas which do not have serious pollution problems. While the savings of such a program would be somewhat less than a complete relaxation of standards, they would still be considerable. Along the same lines, the question of a relaxation of future pollution standards presents a possible alternative method of improving mileage. The trade-off between pollution abatement and mileage is an established fact. It does not seem to make sense to ignore this potential approach to fuel economy while still alleging to desire increased automobile efficiency.



## Crude Oil Policy

The Carter Administration proposes a stiff tax on the wellhead price of domestically produced crude oil. Current crude oil prices are set at \$5.17 for old oil and \$11.00 for new oil. The tax would initially bring the price of old oil up to \$11. As of May 1979, further taxes would be imposed on both old and new oil to bring both of their prices up to the world market price, or at least to a level higher than that of current oil prices. Federal price controls would be extended past their May 1979 expiration dates, and the price of newly discovered oil would be allowed to rise to a degree. There would be special treatment of oil recovered through tertiary techniques, allowing it to rise to the \$14 to \$15 per barrel currently charged on the world market. Price controls on gasoline would also be abandoned. The President plans to return the monies collected through the wellhead tax by rebates to individuals.

## Analysis

The Carter Administration's recommendations regarding the pricing of crude oil are characterized by an apparent lack of understanding of the economics of oil production and the problems inherent therein. There is little doubt that the proposed tax will have several highly deleterious impacts on the economy. First, the imposition of a tax of this nature will drastically raise the price of petroleum products to the consumer. This means that not only will gas and oil prices rise but plastics, fertilizers, and a whole host of other necessary goods will become much more expensive. Secondly, because the tax will be quite heavy, large amounts of capital will be diverted from productive uses. The oil industry is already among the most heavily taxed. They pay production taxes, severance taxes, and ad valorem taxes. Other industries do not. To add the burden of yet another tax is both unwise and unfair. Between 1968 and 1973, taxes on the profits of the petroleum industry increased 186.5% while profits increased 75.9%. The result of this increase was to take away money which could have been used for exploration and development of new oil.

If the \$1.6 billion increase in taxes experienced by the oil industry in 1976 were applied to new wells, 10,000 additional wells could have been drilled. A tax of the proportions of the one proposed by the Administration would cause this figure to pale by comparison. Worse, it would not do anything whatsoever to increase production.

Controls have already caused our dependence on foreign oil to increase. In 1976 alone, the increase in imported oil was between 800,000 and 900,000 barrels per day. By 1980 half our oil will be furnished by foreign sources, possibly as much as ten million barrels per day. If we wish to reverse this trend, we must take the steps necessary to provide the

incentives to produce which have been lacking. This goal will be further hampered if the Administration insists on a tax of this nature.

Some 87% of all oil wells are drilled by independents. However, it is becoming more difficult for them to make a profit. In 1960 more than 140,000 barrels of oil were discovered per exploratory well. By 1970 this figure had dropped to 110,000. By 1974 it had dwindled to 80,000 barrels. At present, five out of six exploratory wells are dry, and only one in fifty is a commercial success. With odds such as these against them, the private driller needs incentives, not taxes.

Furthermore, the concept of rebating part of the increased price of oil to the "working poor" is perhaps well intended; however it may not work out very well in practice. It is quite likely that the dramatic increase in revenues which will take place will give rise to calls for new spending programs. At a minimum, the administrative overhead connected with collecting the tax and processing rebates will consume a portion of the revenues.

More importantly, the tax will probably hit the middle-income family hardest. This group is already suffering from an enormous burden resulting from the fact that they pay most of the taxes to keep the country going. It is likely that this additional burden will be more than many can bear. The market mechanism should be allowed to function. As long as it is interfered with, we can be assured of continuing market imperfections -- shortages, overconsumption, underproduction. However, if left to its own devices, the free choices of individuals will eventually cause oil to reach its natural level while production and development will find additional sources.

#### Alternatives

The first alternative would obviously be to decontrol the wellhead price of oil. It has long been evident that the artificially low price of oil has been partially responsible for the current energy crunch. If the federal government continues to make it economically infeasible for the oil producers to explore and develop new fields, we are assured of an increasing dependence on foreign sources. Our overall energy consumption has steadily increased over the past several decades. While we experienced a brief decline from 1974 to 1975, during the Arab Embargo, energy consumption was increased by 4.8% in 1976. During the same period, U.S. production of energy actually declined. 1975 production was 1.8% less than 1974 and 3.7% less than 1973.

Historically, petroleum has been a particularly price-elastic commodity. If we wish to reverse this trend towards declining production, we must deregulate and allow the market to function. As mentioned before, studies by Chase Econometrics, Westinghouse, and the New York Stock Exchange all indicate that the nation generally is suffering from a severe capital shortage. When one considers that huge amounts of capital are required for exploration and development in the petroleum industry, it becomes obvious that the last thing one should do is to tax away a portion of the funds which could be available for investment. Yet this is exactly what the Administration's proposal would do.

It has been suggested that the purpose to the tax on the wellhead price of oil is to raise the price to the market level without having oil companies show embarrassingly high profits. Another and much sounder approach to the same problem would be to allow the price to rise naturally while giving a tax credit for profits over a certain percentage invested in either alternative energy sources or in exploration and development of new oil fields. In this fashion the money would be put into productive uses without government interference.

As it stands, the proposal effectively freezes the wellhead prices of oil received by the producer at the present level. It would not be allowed to rise except to keep up with inflation. We know that current prices have not provided adequate incentives for increased production. It appears counterproductive to freeze prices at a level we know will not stimulate new supplies.

#### Natural Gas Policy

The President proposes expanding the federal role in natural gas pricing. Currently gas produced for the intrastate market is not subject to federal regulation. Under the Carter proposal, newly discovered gas intended for the intrastate market would be held at a ceiling price of \$1.75 per mcf, a significant reduction from the current selling price which is in excess of \$2. This price is lower than the current price for natural gas on the intrastate market. Newly discovered natural gas sold on the interstate market would also sell at \$1.75 per mcf, up from the current \$1.44 per mcf regulated price. This price is intended to be the equivalent to the price for oil produced in the United States. The federal government would also have the power to allocate gas supplies from both inter- and intrastate producers. The Carter plan, in addition, calls for tax penalties for most industrial users of natural gas. The only exceptions will be certain manufacturers of fertilizer for whom natural gas is an essential part of their manufacturing process. The price of natural gas to the users who are not engaged in fertilizer manufacturing would be raised to approximately \$3.05 through the imposition of an 85¢ tax per mcf. The tax would be imposed beginning in 1979. The tax, which would be keyed to the price of distillate oil, would change from year to year. Utilities would also be penalized for using natural gas. Like industrial users, their penalty would be designed to tie the price of natural gas to distillate oil. In their case, however, the increases would be far slower, to allow for the lead time required to convert their facilities to coal.

### Analysis

The past winter's shortages underscored just how counter-productive price controls have been in the area of natural gas. On the one hand pricing natural gas at an artificially low level led to overconsumption while, at the same time, leading to disincentives to produce. Due to price controls, 1973 reserve additions were less than one-third of consumption. During the same year, total natural gas reserves had dropped from the fifteen-year supply available in 1967 to a ten-year supply. Natural gas production had begun to go down in absolute terms as early as 1972. Other evidence also points to decontrol of natural gas as the only feasible alternative at this point in time.

A study conducted by the Government Accounting Office using the MacAvoy and Pindyck econometric model demonstrated that the only way to produce sufficient natural gas to meet current demand was to decontrol the price. Estimates indicate that the decontrol of natural gas prices would result in additions to supply of as much as twelve trillion cubic feet per year.

It should be noted that the mandatory allocation provision of the Carter Energy Program insures that gas produced on the intrastate market will be diverted to the industrial northeast in coming winters. Producing states are sure to raise strong objections to this policy. As one Member of Congress put it, "Who is going to send us gas after New York has consumed all of ours?"

Since the price of gas produced for the intrastate market will be effectively reduced, there will be considerable disincentives to produce. The intrastate market has accounted for the bulk of newly discovered gas in recent years, and the advent of price controls is likely to slow both exploration and development. Should this occur, the shortages our nation is already experiencing will be seriously aggravated.

As with the case of oil, the prospect of taxes on the use of natural gas predestine further aggravation of the existing capital shortage. Natural gas supplies fully 50% of the energy for U.S. industry. It therefore follows that the taxation of natural gas will be reflected in higher prices to the consumer for every conceivable product. Similarly, the immense investments which will be required of the utility industry for compliance with the President's mandate that they convert to coal will cause severe escalation in the cost of electricity.

### Alternatives

The rational alternative to the President's proposal: Deregulation of natural gas prices. The current shortages we are suffering are the direct result of twenty years of price controls. It is a truism of free market economics that when a product is artificially underpriced, overconsumption and underproduction will occur. This has been the case with natural gas. There is evidence to prove that the advent of deregulation will bring about increases in supply: the intrastate market.

Left to function without interference, the market will produce supplies at an acceptable price. With interference, however, capital formation cannot take place; there simply will not be the money to finance the necessary exploration and development. If, as with the case of oil, the President fears "excessive" high profits from the producers, he can require that all profits resulting from deregulation be reinvested in exploration, development, and in the search for new energy sources. This would not only allow the price of gas to reach a natural level, but it would create jobs and increase supply.

### Coal Supply: Summary

The Carter Administration has proposed tax penalties to force industry and the utilities to convert from natural gas and oil to coal. In addition to the tax on natural gas previously mentioned, as of 1979 a tax of \$1.20 per barrel would be imposed on the industrial use of oil. This tax would rise to \$2.70 per barrel by 1985. Utilities, due to the longer lead time they require to convert, would not begin to pay a tax until 1983. At that time, an initial tax of \$1.50 per barrel would be imposed. These taxes are above and beyond any other taxes the Administration intends to impose. The Administration further proposes that tax rebates be given to the extent that the utilities or industrial concerns incur costs in converting to coal. Utilities would also be provided tax incentives to close plants which use oil or gas.

The Administration will continue to enforce strict environmental controls. Industries burning coal will be subject to the "best available technology" requirement even where such equipment is not necessary for compliance. Scrubbers would be required of all coal burning facilities, including those which use low-sulphur coal. By 1990 the Administration wants coal utilization to amount to over one billion tons annually.

### Analysis

There is little question that the Administration is correct in assuming that the nation will have to turn increasingly to coal as a fuel. Coal accounts for some 90% of all United States energy reserves. Also, there is little question that coal has been underutilized over the past several decades. Only 19% of our energy was produced by coal in 1975. This compares with 28% produced by natural gas and 46% produced by oil. As the cost and scarcity of petroleum and natural gas increase, the nation will have to be prepared to convert more and more of its industrial capacity to coal if serious economic dislocation is to be avoided. The alternative is unacceptable.

The problem with the Carter Administration's approach to the development of coal is similar to its approach to oil and natural gas in emphasizing taxation as opposed to incentives; tremendous and unnecessary capital costs will be incurred. A second problem lies in the area of environmental controls, referred to by the President in his Wednesday night address. While there is little doubt that the widespread use of coal presents grave environmental problems, the Administration is supporting initiatives which go farther than is necessary in imposing restrictions. For example, the Congress is now considering strict surface mining controls and further controls on air quality.

There are two fundamental problems in the area of environmental controls. The first is with land reclamation requirements for surface mines, and the other is concerned with requirements stemming from controls on air quality.

The mining of a ton of coal replaces four barrels of oil or an equivalent amount of natural gas. It is therefore imperative that we make every effort to encourage the development of this vast natural resource. Over one half of all coal mined in this country comes from surface mines. Thirty-eight states have enacted laws which govern the reclamation of lands used for surface mining. It would be redundant to impose further restrictions at the federal level. Also, each state has unique climatological and topographical features. Therefore, the exact requirements necessary to safeguard the environment vary from region to region. The imposition of a federal standard which was uniform might mean that in some areas surface mining would be over-regulated and in others adequate safeguards would not exist. Even the United Mine Workers have recognized this problem and have discarded their previous position favoring strict federal controls on surface mining. The Administration has not adequately addressed this problem and should take under advisement any proposal to expand the federal role in strict controls on surface mining.

The problem of air pollution associated with coal is a serious one. There is little question that some restrictions are designed to protect the environment and are both necessary and proper. The real question is not whether or not to impose controls but rather to what degree. In this the Carter Administration has apparently fallen trap to the pristine environment syndrome. There is a tremendous cost associated with the introduction of pollution control technology, and the costs and benefits should be weighed. In proposing that the "best available technology" be used, even where not necessary to meet federal standards, the Administration is imposing a cost which is unnecessary. The same is true for the requirement that scrubbers be used where low-sulphur coal is the power source. The Administration would be on firmer ground with its otherwise commendable advocacy of coal as a fuel if it discarded these parts of its program.

There is one course of action not mentioned in the President's energy message specifically which some observers believe will eventually be incorporated. This is the eventual price control and mandatory allocation of our coal supplies. Producers fear that if such controls are imposed, they will be unable to meet existing contracts or to develop the capital necessary to expand their facilities to meet what will be a rapidly expanding demand. Our experience with price controls on gas and oil should have taught us that they simply do not work; however, it remains to be seen whether or not such restrictions eventually become part of the Carter Energy Policy.

#### Alternatives

Rather than tax penalties on users of oil and gas to force them to convert to coal, tax incentives are a better solution. Tax credits for conversion, coupled with incentives to producers to expand and make more efficient their operations, would greatly enhance our nation's chances to fully utilize this valuable resource. Similarly, tax incentives should be enacted to speed the development of facilities which would be used for the liquification and degasification of coal. In this fashion, our oil and natural gas supplies could be augmented by synthetic fuels manufactured from our most abundant energy source.

#### Insulation Policy: Summary

The Carter Administration proposes tax credits for the installation of home insulation and for certain energy saving devices. 25% of the first \$800 and 15% of the next \$1400 would be deductible. All utility companies would be required to provide home-energy programs. These would essentially be

comprised of offering to install and finance the installation of conservation devices. State utility commissions would be allowed to include the costs of installing conservation devices in the utility's rate base. There would be grants for conservation measures taken by non-profit institutions and mandatory insulation standards for new construction. These would begin in 1980.

A secondary market for loans to finance conservation improvements would be created through the Federal Home Loan Mortgage Corporation and through the Federal National Mortgage Association. There would also be a 10% tax credit for businesses which install energy saving devices.

### Analysis

Perhaps the only criticism which can be made of the Carter incentives for conservation improvements is that it would be better to have an even higher percentage write off. This, however, would be nit-picking. In fact, the President is doing something which needs to be done and for which he should be applauded. Of the various suggestions coming from the Administration, this is certainly among the soundest. It has been estimated that improvements in insulation may save as much as 30% of our energy consumption for home heating and cooling. The elimination of this waste would certainly be a major movement in the right direction.

### Efficiency for Appliances and Solar Energy: Summary

The Administration has proposed that efficiency standards for home appliances be established by the Federal Energy Administration and that incentives be given to homeowners and businessmen who install solar-powered equipment. The incentives for solar equipment would begin in 1978 with a tax credit of 40% for the first \$1,000 spent and 25% for the next \$6,400. Tax credits would diminish through 1984 and expire on December 31 of that year.

### Analysis

Similar to the incentives for installation of home insulation, increased efficiency for appliances and encouragement of solar power are both commendable goals. It is likely that industry would have eventually begun to produce more efficient appliances as energy costs went up anyway; however, it is perhaps useful to have some sort of federal minimum standard. Solar units can be made commercially feasible with the extra incentive offered through the tax credit.



Since residential heating and cooling comprise such a substantial portion of the total energy consumption in this country, all efforts to help lower the burden are valuable.

### Nuclear Policy: Summary

The Carter Administration will call for a total ban on the Liquid Metal Fast Breeder Reactor. They will allow the development of the Clinch River LMFBR as an experimental facility only. It will not be allowed to go on line or to be used as the basis of a power grid. The development of other nuclear facilities of a more conventional nature will be emphasized; however, the Administration intends to depend much more heavily on coal and exotic sources than on nuclear sources for future generating capacity.

### Analysis

There is considerable development of LMFBR's occurring in other countries. The Soviet Union has one LMFBR on line, and is planning another. France, West Germany, and Great Britain all have LMFBR's either under construction or in operation. These nations all have plans to expand their nuclear power generation facilities extensively. Given these facts, it is questionable whether the curtailment of U.S. LMFBR development will have any impact on the worldwide proliferation of plutonium-fueled nuclear facilities. Rather, it may be that in stifling our own LMFBR development, we are merely assuring a limited role for the United States in the effort to encourage the peaceful uses of nuclear power. Nuclear power currently provides approximately 6% of electric power in the United States. Projections had predicted a 30% share by the mid-1980's. This, however, now seems to be in doubt. If, as seems to be the case, the Administration will engage in policies aimed at discouraging the development of nuclear facilities, there will have to be an intensive effort to plan for other types of plants, and a tremendous loss of capital already invested in plans for nuclear facilities.

### Alternatives

There is one alternative to the President's policy which is apparent on first review. This is to at a minimum, encourage the development of conventional nuclear facilities. Further, given the expansion plans of other nations, it would be in the

best interests of the nation to go ahead with the Clinch River Project as an on-line power generation facility so that the technology is available should it become necessary to turn to the LMFBR as a source of energy.

A second alternative is to consider development of Thorium cycle breeder reactor. The thorium cycle reactor has certain advantages over the plutonium-fueled LMFBR in the eyes of the environmentalists. It, therefore, is less likely to suffer from as extensive opposition. It might be feasible to develop an experimental facility at the same time as the Clinch River Project is developed to serve as a basis of comparison.

Fears of a worldwide plutonium economy resulting from the U.S. development of the LMFBR are really a straw man. Since other countries are already far along the line with the development of such facilities, it really becomes a moot point. The real question is whether or not the U.S. is to have a role in the development of what is sure to become a major energy source for the world.

#### Utility Rate Policy: Summary

The President has proposed that radically different policies be instituted in the area of electric utility rate making. He has proposed that a system of fuel cost pricing and peak load pricing go into effect two years from the date from the enabling legislation. Full cost pricing would abolish the current "block rate" system. Customers currently pay less for electricity as their consumption increases. This sort of rate structure was originally intended to allow the utilities to take advantage of economies of scale. Industrial users frequently had far lower rates than residential customers because they generally provided their own distribution systems. The President would have a customer's bill accurately reflect the cost of servicing that customer. In addition, he would impose an additional charge for use during peak load periods. These are periods when the demand for electricity is at its highest. A second portion of the President's proposal would require utility companies to sell electricity to one another during peak periods for whatever it costs them to generate the power. This is effectively a federalization of the national power grid.

### Analysis

The Administration, in its proposal to institute both full cost and peak load pricing schedules is advocating policies which will result in far higher costs to the residential consumer. Currently, rate schedules are designed in a fashion which effectively has bulk users subsidizing residential customers. With the advent of full cost pricing, this will no longer be the case. While it is a popular fiction that industrial users are paying an unfairly low rate for power, the opposite is actually true. The rationale for the declining block rates currently in use is that it is cheaper to provide power to most industrial users. The industrial user in most cases provides his own distribution system. The utility is, therefore, able to transmit the power under very high voltage to the site of the plant. This is far cheaper for them than is the transmission of relatively low voltage power to a residential customer. If actual cost pricing is instituted, the full cost of that low voltage transmission will be borne by the individual homeowner.

A second aspect of the Carter plan which is likely to be of considerable economic impact is the institution of what is termed "Peak Load" pricing. By this it is meant that an additional charge will be added to a customer's bill for the use of power during certain periods of time when demand is particularly high. Peak Load pricing, among other things, requires the installation of extremely expensive meters which record the time of consumption as well as the amount of consumption. Every home in the nation will have to install such a meter if this sort of pricing schedule is to be used. Further, there is some question as to whether or not the institution of Peak Load pricing actually diminishes demand. While the advocates of this sort of price schedule say that it would result in an evening out of time consumption of electricity, there is no reason to believe that this necessarily means that the evening out of consumption will result in less consumption. If, as advocates contend, the direct result of Peak Load pricing will be to cause the staggering of employment by industry, it would then be necessary for governments and retail businesses to stay open longer hours to be available for the workers on night or evening shifts. This may actually result in more consumption than less. A second problem is that with the advent of increased availability of shift work, there may be a sharp increase in moonlighting, and a corollary increase in the rate of unemployment. Finally, the demand charge resulting from Peak Load charges is going to raise electric bills substantially. It is easy to say that an individual can save money by doing their laundry at eleven o'clock at night; it is another thing for that individual to

adjust their schedule to do so. There will be many residential customers who are simply unable to change their patterns of power consumption, and will have to cut back in other areas in order to pay their utility bills. Individuals on fixed incomes will also suffer considerable hardships under fixed cost pricing, especially in light of the measures in the President's package which will further aggravate the spiraling costs of electricity.

### Alternatives

Basically, there are two alternatives to the President's proposal. The first is to do nothing. It may be that the current rate structure is poor, but it is in many respects better than one which is likely to cause massive increases in residential customers' electric bills. This alternative, however, is unlikely to be feasible. There is simply too much pressure mounting over the increased cost of electricity, and many individuals are functioning under the misimpression that the peak load pricing and actual cost rate schedules will result in lower prices.

The second alternative to the President's proposal would be to simply deregulate the utility industry and allow the market to function. This is a far more rational and sound approach. The primary reasons for the current waste and inefficiency so characteristic of our nation's power companies is the fact that they are licensed monopolies whose profits are based on a return on investment rather than on normal business risks. There is absolutely no incentive for the utility to be efficient. If there were competition in the utility industry, efficient companies would drive inefficient ones out of business. Further competition creates an environment for technological advance. If there were competition in this vital industry, it is likely that new and better ways of generating power would be developed by the companies themselves.

### Other Policy Issues

The Carter Administration will set strict standards for energy conservation by the federal government including standards for federal buildings, efficiency standards for federally owned and operated vehicles, and encouragement of carpooling by federal employees. A strategic petroleum reserve of one billion barrels is planned, and the production of Elk Hills is to be reduced. To stimulate the use of intercity buses, the excise tax on tickets will be removed. Also guidelines for liquid natural gas and synthetic natural gas will be established.

## Management Information Systems Policy: Summary

The President is proposing extensive monitoring of profits and practices of oil and gas producers. Companies would have to conform to a uniform system of accounts and would be required to report capital expenditures and operating results by geographic region and type of fuel. Information relating to functional areas such as refining, production marketing and pipelines would also have to be submitted. This would include foreign as well as domestic information. The American Gas Association and the American Petroleum Institute would be required to open their reserve estimation process to federal officials who would supervise the collection and preparation of data. Information submitted by companies would be randomly audited. An Emergency Management Information System would be established to provide the government with the information on local energy supplies and demand needed to respond to an oil embargo or natural gas shortage. State energy offices would be used to assist in the collection of such data.

### Analysis

The President's proposals in this area are apparently aimed at the collection of data on which to base divestiture legislation or litigation. While the Administration claims that there will be no compromise of proprietary information, past experiences with federal safeguards of such data give cause for concern. Data relating to oil supplies, reserves, and exploration is of a particularly sensitive nature. There would be tremendous incentives for abuse of illicit activities connected with the information the government will require of producers.

A second problem which will undoubtedly develop is the tremendous costs which will be associated with the collection of this information. Oil and gas companies are already suffering from an extremely heavy paperwork burden. For example, Exxon USA has 112 full-time employees occupied by nothing other than meeting federal reporting requirements. They estimated that they are required to fill out 409 reports which are filed with 49 different agencies. In each case, the information required is slightly different, and much of it is of questionable value. The cost of filling out these forms has consumed \$3.5 million dollars and 50 man-years of valuable and geological manpower.

There are certainly questions relating to the requirement that API and AGA allow federal bureaucrats to supervise their

estimation of oil and gas supplies. These are voluntary associations, supported by their memberships, not government agencies. To force them to allow federal bureaucrats to supervise what are essentially internal functions is a questionable government interference in the private sector.

### Alternatives

There is currently more than enough information available on oil and gas supplies. The FEA, EPC, FTC, SEC, USCG&S, and several congressional committees collect such data. What might be more useful than the creation of a new agency would be to get rid of the overlapping jurisdictions and conflicting reporting requirements and consolidate federal reporting. The data is there, it is just buried under so many different formats that no one can make head or tails of it.

A unified federal report for oil and gas producers would have a number of advantages. First, it would greatly reduce the drain on producers resulting from unnecessary paperwork. Secondly, all of the information would be collected in one place. Finally, it would speed up the reporting process by simplifying it.

### Conclusion

The Carter Energy Package is characterized by one particularly evident fact: It ignores the supply side of the equation. The Carter strategy is basically a demand strategy. While the concept of limiting demand is certainly sound, it should be accompanied by efforts to increase supply. For the most part, the Carter plan ignores this. There are a few incentives for some of the more exotic types of energy alternatives; nevertheless, there is not the kind of commitment to expansion of supply necessary to maintain an acceptable level of economic growth. The President has stated that his goal is to limit the growth of demand for energy to 2% annually. This is an admirable goal, but it might be better to attempt to increase supply rather than curtail demand. In this fashion, taking into account both sides of the economic equation, the nation could continue to enjoy a high standard of living while coping with the energy problem.

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# Background

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## Carter's Energy Program: Analysis and Alternatives Summary

President Carter has proposed a comprehensive program to deal with the energy crisis. The major features of his package include the following specific proposals:

- \* A tax on mileage of inefficient automobiles coupled with a rebate on high-mileage automobiles.
- \* A standby tax on gasoline to be used if certain consumption targets are not met, to be imposed in 5¢ increments to maximum of 50¢ per gallon.
- \* A wellhead tax on the price of old oil raising it to the current controlled price of new oil beginning in 1979, and a gradual rise in the price of all new oil to the 1977 world market price.
- \* Bring all newly discovered natural gas under the auspices of federal price controls with a ceiling of approximately \$1.75 per mcf. initially. The ceiling would be established by tying the price of gas to the acquisition price of oil in BTU equivalents.
- \* The imposition of a tax on the industrial use of oil or natural gas except for certain industries where those fuels are an essential part of a process.
- \* Strict environmental controls including the requirement that "best available technology" be used and strict controls on strip mining.
- \* Requirements that utility companies do away with declining block rates and institute charges for the use of electricity during periods of "peak loads."
- \* Requirements that utilities share power with other utilities when their facilities are not fully in use.
- \* Requirements that utility companies offer the installation of home insulation and financing for that installation to their customers.

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- \* Tax credits for conservation improvements and tax subsidies for non-profit institutions which wish to retrofit such improvements.
- \* An outright ban on the Liquid Metal Fast Breeder Reactor, and a streamlining of the process of licensing of nuclear facilities.
- \* Mandatory conversion to coal for most electric power generation and industry by 1990.
- \* New requirements for reporting by oil and gas producers, including information broken down by function and by domestic and foreign operations, coupled with strict enforcement of antitrust laws.

President Carter's call for a comprehensive energy policy at the federal level demonstrates a real understanding of the seriousness of the energy crisis. For too long we have taken for granted cheap bountiful energy sources. The result of this indifference to a rapidly escalating rate of energy consumption is being felt today in higher prices and chronic shortages. The President's call for strict conservation measures is long overdue. In the short run, there is little doubt that such measures can go a long way towards softening current hardships created by the short-run lack of supply. While there is much to commend in the President's energy proposals, there is one overall deficiency in his package. This is that the President's advisors have completely ignored the supply side of the equation for all intents and purposes.

In presenting his energy program to the American people, President Carter has made it clear that he will attempt to solve our energy problems through more government regulation rather than through market forces. He has also made it clear that his program will concentrate almost exclusively on forcing down demand. In doing this, grave problems in terms of unemployment and increased inflation could result.

Historically, petroleum has been particularly price-elastic. If adequate incentives are not allowed, it is unlikely that supplies will reach their true potential. Given our current situation with both oil and natural gas, it is obvious that adequate incentives have not existed. To freeze the price of oil and natural gas at their current levels is simply to insure a continuing shortage of these resources. A far more effective strategy would be to decontrol prices and to allow the market to find its own price. The outright ban on development of the LMFBR is another aspect of the Carter program which does not make sense at this time of crisis. Other nations are developing such facilities, and it is certain that breeder reactors will play an increasingly important