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BEFORE THE  
COMMITTEE ON ENERGY AND NATURAL RESOURCES  
UNITED STATES SENATE  
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Mr. Chairman: In response to requests from this committee and others in both houses of Congress, the Congressional Budget Office has begun to examine and evaluate the President's energy proposals. Sometime next week we will complete a staff working paper which provides a preliminary analysis of the proposed legislation. More detailed analysis of the President's proposals and alternatives will be made available to the Congress as soon as they can be completed.

Today I would like to touch briefly on five points: (1) the need for an energy plan; (2) the general orientation of the Carter plan (3) the preliminary results of our analysis of the impact of the President's proposals on energy consumption; (4) the impact of the proposed plan on the economy; and (5) the distributional effects of the plan.

#### The Need for an Energy Plan

The need for a national energy plan arises from both immediate and longer run problems. The long run problem is simply that the growth in oil and gas consumption exceeds the growth in proven reserves -- both domestic and foreign. Thus eventually we will have to shift to new energy sources or face drastic reductions in our standard of living. The more immediate problem is that our imports of oil have increased substantially -- from 3.5 to 7.3 million barrels per day between 1970 and 1977. The fact that almost one half the oil consumed in the U.S. is now imported creates national security risks and makes our economy highly vulnerable to outside shocks, especially because the supply and price of oil is largely dictated by an international cartel.



The major reason for the substantial increase in our import dependence is the current system of price controls on oil and gas that have kept the domestic price of these fuels artificially below world levels. Over the past four years this regulatory system has served to cushion Americans from the dramatic adjustments in consumption and lifestyles that might otherwise have taken place due to the abrupt quadrupling of world oil prices by the OPEC Cartel in 1973 - 1974. However, it has also tended to encourage energy consumption and discourage the domestic search for and production of new resources -- thereby increasing our dependence on potentially unreliable foreign suppliers.

To reduce import dependence the President has proposed three major strategies:

- o Reduce the long term growth in energy demand by imposing various excise taxes which serve to raise the price of petroleum and related products to world or near world levels. New regulatory standards are also proposed and special efforts are taken to reduce the growth in demand for gasoline.
- o Increase large industries and utilities' use of coal instead of oil or natural gas by taxing existing uses of oil and natural gas. Regulations are designed to prohibit most new industrial and utility use of oil and natural gas.
- o Increase domestic supplies by reintroducing market pricing, or near market pricing, for truly new energy supplies:



In evaluating these overall strategies and the goals of the Presidents program it is important to keep in mind several points. First, an important theme of the proposed program is that the transition to a less energy intensive economy is a long and complex process. Incentives established now to alter consumption and investment decisions regarding energy use will begin to yield significant savings within the next few years. Large scale savings will not show up until the middle of the next decade and beyond. Of critical importance is the fact that most of the costs of such a program will be paid between now and 1985 while most of the benefits will take place beyond 1985.

A second major point is that the goals and energy savings incorporated into the National Energy Plan do not necessarily coincide with those of the National Energy Act as introduced. While it is hoped that the act will attain the stated goals it appears that the President may be optimistic, and therefore, additional legislation would be required. Indeed, the administration seems to be viewing the energy plan in two steps i.e., this initiative and then more severe measures if this legislation does not reach the specified goals. Many of these more severe measures are included in the plan, but are not incorporated into the act.

This potential gap between the energy savings of the plan and the act depend significantly on a number of regulatory decisions such as exemptions from coal conversion over which the administration would have control. If enforcement were strict it would increase the probability



that the goals would be attained. Consequently, the commitment of the administration to the goals is critical in determining the efficacy of the overall plan.

Another important point is that the major thrust of the Carter package appears to be one of increasing energy prices to consumers so that they will make their normal market adjustment of decreased consumption. However, a relatively high percentage of the energy savings is estimated from the implementation of new regulations on appliances, new commercial and residential buildings etc. and therefore these represent an important part of the program.

Finally, the plan is a set of proposals which are very interdependent. To a large degree there was a "carrot and stick" philosophy. For example, tax credits are often given to industry which are made more economic by the increase in energy prices. Either of these two proposals independently might exhibit only marginal energy savings, but combined the effect may be substantial.

#### Crude Oil Pricing

Bringing domestic oil prices up to or near world levels is a key feature of the Carter plan.

The mechanism for raising domestic oil prices recommended by the President -- the crude equalization or wellhead tax -- operates in stages over a three year period and captures most of the windfall gains associated with higher prices for the public sector in the form of additional tax revenues. These revenues are then returned via a system of rebates.



Also, the proposed crude equalization tax will lead to the elimination of the so-called entitlements program and thereby reduce some of the regulatory burden on industry.

The price of new oil will move in stages to the current (1977) world price -- and then rise with domestic inflation. In the event the rate of growth of world prices exceeds the rate of domestic inflation, domestic oil prices received by producers will be limited to the growth in the domestic price level. Thus, future OPEC actions will not determine prices received by domestic producers. Unless some new type of entitlement system is introduced, however, future OPEC actions will affect prices paid by America consumers.

We estimate that the proposed wellhead tax on crude oil will raise the price of refined products by about 8-9 cents per gallon (in current dollars) by 1980. Unfortunately, due to the interdependence of this crude equalization tax with the various proposed regulatory changes, we are unable to measure the potential energy savings at this time. On the supply side, however, the price increase of truly new oil will raise domestic production by 100,000 barrels per day by 1985, which is slightly below the estimate of the President.

Regarding the pricing of Alaskan North Slope oil, our office has previously reported before this committee that the President's recommendation to grant foreign entitlement treatment to the already discovered oil at Prudhoe Bay will generate an additional \$5.5 billion in wellhead revenues over the next four years. If the entitlement system is still in existence after 1981 the additional wellhead revenues will be even higher.



While it is certainly true that the only substitute for North Slope oil is more imports, one might question the logic of allowing -- through the entitlement system -- the owners of previously discovered oil in Alaska to obtain higher prices for their oil than the owners of previously discovered oil elsewhere in America. It is true the transportation costs are high, but they do not appear so high as to deny the owners of Alaskan oil a handsome return on their investments.

### Natural Gas Pricing

The principal change in natural gas pricing proposal by the President is the extension of federal regulation to the intrastate markets. Essentially, the mechanism would be to cap new gas at 1.75 per thousand cubic feet and escalating thereafter at the rate of domestic inflation. Over time, this would eliminate the current anomaly of low prices and shortages in the interstate market and high prices and abundance in the intrastate market.

In evaluating this proposal two questions should be addressed: Should new gas prices be capped and if so at what price. With respect to the first question our analysis indicates that without a cap new gas prices could rise to \$4.00 - \$5.00 per thousand cubic feet since they would not be restricted by demand. This is essentially due to the fact that new gas would be combined with the current long term contracts which are often at prices of 20 to 30 cents per thousand cubic feet. Thus, the average price of all gas (new and old) is likely to be below the BTU



equivalent price for sometime. Such high prices would in turn represent substantial windfall profits to the industry and therefore a price ceiling on new natural gas seems appropriate.

The 1.75 cap has, however, been criticized by producers for not providing enough incentive for additional exploration. In light of the relatively small quantities of new gas that have entered intrastate markets in recent years in response to rapidly rising prices it would appear that production of new gas is not very sensitive to small price increases. Therefore, it appears that the incentives for new gas are sufficient.

Some pricing provisions of the plan however, seem inconsistent with the aim of achieving high levels of gas production without providing windfalls to the producers. For example, there seems to be no justification for allowing expiring contracts for interstate gas to be renewed at 1.42 per thousand cubic feet. This would appear to allow a windfall profit for some producers.



### Coal Conversion

The increase in oil and gas prices just discussed apply to all users except consumers of home heating oil. They are designed to reduce overall consumption of these fuels and in the case of natural gas to provide for a more efficient allocation across the country.

Some substitution of coal for natural gas and oil by industries and utilities will undoubtedly occur as a result of these price and tax increases. However, the major thrust of the coal conversion program is an additional set of taxes on industrial and utility use of oil and gas combined with a set of regulations requiring coal conversion.

Various questions have been raised concerning the feasibility of the coal conversion plan. Some have questioned the environmental damages of increased mining and burning of coal. Others have questioned the adequacy of our transportation network. Still others have focused on the regional impacts and the economic upheaval such a program is likely to cause in many mining towns.

In view of the President's recommendation that the best available environmental control technology be used and the likely passage of the strip mining bill now before Congress, we do not believe the environmental impacts of the proposed coal policy will be severe. We are similarly optimistic on transportation network -- at least over the next decade. Further, the use of the best available control technology will encourage the use of Eastern coal and thus not create such a run on Western coal as might result without such an environmental policy.



We are skeptical, however, that the scale of industrial conversion to coal envisioned by the President will be accomplished. The President's plan estimates an increase from the present industrial consumption of about 170 million tons to 440 million tons in 1985. The majority of this increase would take place in the industrial sector which would have to increase from 70 to about 330 million tons in 1985. The achievement of this goal would require that 10 percent of all existing industrial-use fossil fuel be converted to coal and that 44 percent of all new potential uses would convert to coal. Present policy for 1985, for example, would only show 18 percent of new uses that would utilize coal. The impediments of transportation of coal to factory gates (which do not now receive coal), environmental standards in some locations, and the scheduling of new coal facilities to maximize the benefits of rebates will all act to slow the rate of new conversions. The CBO projects 33 percent of new uses to be converted to coal, nearly double the present policy. This would result in coal consumption by industry of 280 million tons, a reduction of 50 million tons below the President's estimate. In terms of barrels of crude oil equivalents, our conversion estimates translate into an oil import savings of 1.9 million barrels a day which is .6 million below the President's.

With respect to the utility component of the coal conversion program we are in agreement with the proposed savings estimated by the President.



### Auto-Related Proposals

The automobile-related provisions of the President's energy package are aimed at reducing gasoline consumption through production of vehicles with greater fuel efficiencies, through consumer adoption of more efficient vehicles, and through price-induced reductions in miles driven. The goal of the plan is to reduce gasoline consumption by 10 percent from current levels by 1985. This is a difficult goal, considering that motor gasoline consumption has increased at 4.5 percent per year between 1965 and 1975.

Three programs in the President's package are likely to reduce future automotive gasoline consumption. The "gas-guzzler" excise taxes and rebates for new cars appear to offer the greatest fuel savings. CBO estimates fuel savings for the gas-guzzler program to be 215,000 barrels a day in 1985 and 450,000 barrels a day in 1990, savings slightly above those projected by the Administration for this program. The crude oil equalization tax would have only minor effects on gasoline consumption, reducing it by about 25,000 barrels a day in 1985 and even less thereafter. The standby gasoline tax could eventually lead to significant fuel savings, but only moderate effects are expected by 1985. The stringent gasoline consumption goals contained in the President's plan are projected to trigger the standby gasoline tax from 1982 on, producing additional fuel savings of 65,000 barrels per day in 1985, and 200,000 barrels per day in 1990. Taken together, these three program elements lead to total gasoline savings above present policy of 305,000 barrels per day in 1985, and 650,000 barrels per day in 1990.



The fuel savings to be gained from the standby gasoline tax in 1985 are highly dependent upon when it is triggered. The extent of diesel penetration within the auto and truck fleets as well as the stringency of fuel economy standards to be set for light trucks under EPCA, will play major roles in determining when the standby tax triggers initially. Changes in diesel penetration and light duty truck standards could delay triggering of the standby gasoline tax from 1982 (as projected by CBO) until 1984, and developments in these highly uncertain areas, could lead to 1985 motor gasoline consumption under the Carter package which exceeds the target by anywhere from 300,000 to 650,000 barrels per day. The Administration projects 1985 gasoline consumption to fall 350,000 barrels a day above target without consideration of the standby gasoline tax. Given the magnitude of the excesses, projected by both the Administration and CBO, 1985 gasoline consumption is not likely to be held beneath the target set by the Carter plan.

In short, Carter's package produces sizeable gasoline savings --equivalent to about 20 days of auto gasoline use in 1985 and 45 days in 1990. Nevertheless, the provisions contained in this package do not appear to be sufficient to meet his goal for 1985 gasoline consumption: CBO expects 1985 gasoline consumption under the President's program to be only about 5 percent beneath that experienced in 1976, compared with the 10 percent reduction called for by the President.

Trucks hold the key to narrowing the gap between actual and target gasoline consumption in 1985. There is now one truck for every four



cars registered in this country, and the number of light duty trucks continues to soar as vans, pick-ups, and recreational vehicles increase in popularity. Because of the great variety of trucking equipment and operations, federal programs for trucks can be cumbersome, particularly for heavy trucks, and current truck fuel economy programs lag behind those for automobiles. Fuel economy standards for light trucks, authorized by Congress under the Energy Policy and Conservation Act but yet to be specified, will play a key role in shaping an effective and even-handed policy for transportation fuel conservation.

#### Insulation Tax Credit

The proposed insulation tax credit is likely to encourage some additional homeowners to upgrade the insulation in their homes. However, with rising fuel prices since 1973 many homeowners have already re-insulated or have made decisions to do so in the future. For example, about 3 million homeowners chose to upgrade their insulation in 1976. With current energy prices insulation is already a good investment for homeowners since the savings in fuel bills are about three times the cost of the insulation. The proposed credit would make this ratio of cost to savings 4:1.

Between now and 1985, we estimate that about 24 million homeowners and renters are likely to re-insulate. Nearly 8 million would be directly attributable to the tax credit. The energy savings attributable to the nearly 8 million households who will insulate due to the credit is



estimated to be approximately 120,000 barrels a day. The President, on the other hand, estimates that 480,000 would be due to the credit. However, we do estimate that an additional 280,000 barrels a day will be saved by re-insulation which people are doing without the Carter plan. As with any tax credit, a substantial portion of the cost goes to people who would have acted in the absence of a credit. CBO estimates that 50-70 percent of the credit is a windfall to people who already planned to add insulation.

#### Short-run Impacts on the Economy

The Carter package would have a major impact on energy market; a noticeable but small impact on the overall rate of inflation, and only a minor impact on total output and employment. CBO estimates that the President's plan would add about 1.5 percent to the level of consumer prices by 1980 or about half a percentage point per year to the rate of inflation from 1978 through 1980. The output effect is estimated to reduce constant-dollar GNP by no more than six-tenths of one percent by the end of 1980. With respect to unemployment the energy proposals should add no more than 0.2 percentage points to the unemployment rate by the end of 1980.

To understand why these effects are so small, it is helpful to consider what is likely to happen to the nation's fuel bill with and without the energy proposals. In 1976, total U.S. expenditures on fossil fuels (including imports, but before domestic transportation, refining, or other process) amounted to about \$90 billion or just over 5 percent of total GNP. A 10 percent increase in fuel prices passed through dollar



This direct pass through is not the end of the story, of course. On the other hand, reduced demands for fuel in response to higher prices could diminish the effect on the overall price level; but over a period of only a few years the demand response to fuel price appears to be small enough so that this factor can safely be neglected in rough calculations. On the other hand, higher wage settlements in response to the higher prices, and additional price increases based on these wage settlements, could amplify the initial pass through; and past experience suggests that this amplification would be of some importance.

From the macroeconomic point of view, the energy proposals invite comparisons with another major economic shock of recent years -- namely, the OPEC quadrupling of oil prices in 1973 - 1974. The Carter energy proposals would add 0.24 points to the price index of commodities worth \$90 billion in 1976. They add roughly 0.24 times \$90 billion, or \$22 billion to our national fuel bill (1976 prices), and do so gradually over a period of three years. The OPEC increase added 0.40 points to the price index, or a "bill" of \$35 billion (1976 prices). Clearly, the OPEC increase was a much larger shock than the energy proposals.

#### Distribution Effects

A final issue which I would like to address is the combined impact that the energy proposals and tax rebates will have on consumers. Assuming that the crude equalization and natural gas and oil excise taxes are almost entirely passed on to consumers close to 18 billion dollars will be paid by 1980 in terms of higher energy prices. Primarily because the



natural gas and oil excise taxes are not rebated to consumers the total rebate is estimated to be about 15 billion dollars leaving a net reduction in real purchasing power of approximately 3 billion dollars. In addition to this total effect the energy proposals will redistribute purchasing power from persons in the upper four quintiles to the lowest quintiles of income. Other transfers are likely to take place. For example, nonautomobile owners will gain at the expense of automobile owners. Homeowners will gain at the expense of renters and persons living in cities within access to public transportation will gain at the expense of persons in suburbs and rural areas.

#### SUMMARY

In summary, on the benefit side our preliminary evaluation indicates that the president may be somewhat optimistic in his energy savings estimates for the plan by 1985. Based on our estimates of coal conversion and home insulation, it is possible that the potential oil impact savings in the plan are closer to 3-1/2 million as opposed to 4-1/2 million barrels by 1985. However, it is argued that 1985 is not a good year in which to focus since a large percentage of savings will take place after that time. In addition, the attainment of the goals depends considerable on the commitment of the administration since they would have a fair degree of latitude in both the specification of regulations and their subsequent enforcement.

With respect to the costs of the program one of the major impacts is that it would cause a small but noticeable increase in the overall rate of inflation. Small decreases in real GNP and the minor increases in unemployment would also result from enactment of the Carter plan. The other major costs of the program would be that the burden would undoub-



tedly be felt somewhat unevenly by Americans. However, on the aggregate the poor would be protected by the rebate system.

We are continuing to evaluate the energy plan and would welcome the opportunity to share the results of our subsequent analysis with the committee at a later date.

Thank you.

