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BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
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Mr. Chairman: I am happy to be with you today to comment on President Carter's energy proposals. In response to requests from this committee and others in both houses of Congress, the Congressional Budget Office has begun to examine and evaluate these proposals. Sometime next week we will complete a staff working paper that provides a preliminary analysis of the proposed legislation. More detailed analyses 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 across households.

The Need for an Energy Plan

The need for a national energy plan arises from both immediate and long-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. Before long 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 of the oil consumed in the United States 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. It has also tended to encourage energy consumption and discourage the search for and production of new domestic resources -- thereby further 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 that would 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 their use 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. Accelerated development of new energy sources is not, however, stressed.

In evaluating these overall strategies and the goals of the President's 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, but 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 occur beyond 1985.

A second major point is that the goals and energy savings incorporated into the National Energy Plan may not be fully achieved by the National Energy Act as introduced. While the Administration hopes that the act will attain the stated goals, it recognizes that the hope may not be realized and that additional legislation or regulations will be required. Indeed, the Administration seems to be viewing the energy plan in two steps, that is, 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 additional regulatory decisions, such as exemptions from mandatory coal conversion, over which the Administration would have control. Strict enforcement would increase the

probability that the goals will 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, while the Administrations' major emphasis in the package is on increasing energy prices to consumers to induce them to reduce consumption, a relatively high percentage of the estimated energy savings is attributed to the implementation of new standards on appliances, new commercial and residential buildings, etc. These standards are a crucial part of the program.

Finally, the Presidents' proposals are highly interdependent. To a large degree there is a "carrot and stick" philosophy. For example, the tax credits given to industry to encourage investments are made more effective by the increase in petroleum and natural gas prices. Either of these two proposals independently might exhibit only marginal energy savings, but combined the effect might 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 oil equalization or wellhead tax -- operates in stages over a three-year period and captures for the public sector in the form of tax revenues most of the windfall gains associated with higher prices for already discovered oil. These revenues are then returned to consumers via a system of rebates.

We estimate that the proposed wellhead tax on crude oil will raise the price of refined products by about 4-5 cents per gallon (in current dollars) by 1980. This is in addition to the increase of 4-5 cents per gallon already projected under existing legislation. The proposed crude oil equalization tax will also lead to the elimination of the so-called entitlements program and thereby reduce some of the regulatory burden on industry.

Under the President's proposals the price of newly discovered oil will move in stages to the current (1977) world price -- and then rise with domestic inflation. Should the rate of growth of world prices exceed 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 necessarily determine prices received by domestic producers. Future OPEC actions will, however, affect prices paid by American consumers. CBO estimates that the price increase on 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 proposed 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, 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: (1) should new gas prices be capped, and (2) 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. Consumers would buy at those prices because the new gas would be combined with old gas which under long-term contracts, is sold at prices of 20 to 30 cents per thousand cubic feet. The average price of all gas (new and old) is still likely to be below the BTU equivalent oil price for some time. Such high prices for new gas 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 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, however, that production of new gas is not very sensitive to moderate price increases.

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 prices as high as \$1.42 per thousand cubic feet. This would appear to be an invitation to windfall profit for some producers.

Coal Conversion

The increase in oil and gas prices just discussed applies 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 regional allocation.

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. The major thrust of the coal conversion program is, however, an additional set of taxes and rebates 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 impact 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 the Congress, we do not believe the environmental impacts of the proposed coal policy will be severe. We are similarly optimistic on the 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 as much of 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. Most of this increase would take place non-metallurgical coal which would have to increase from the present 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. If present policy were continued to 1985, only 18 percent of new industrial demand 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 agrees with

the President's 10 percent conversion of existing industrial use but projects only 33 percent of new uses to be converted to coal. This would result in total 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 0.6 million barrels below the President's estimate.

With respect to the utility component of the coal conversion program, we are in general agreement with the President's estimate of savings.

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 an ambitious 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 we expect only moderate effects 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, relative to 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. Both extent of diesel usage within the auto and truck fleets and the stringency of fuel economy standards to be set for light trucks under EPCA will play major roles in determining when the standby tax initially triggers. More diesel usage and more stringent light duty truck standards could delay triggering of the standby gasoline tax from 1982 (as projected by CBO) until 1984. On the other hand slower developments in these highly uncertain areas could lead to 1985 motor gasoline consumption which exceeds the Carter target by anywhere from 300,000 to 650,000 barrels per day. The Administration projects 1985 gasoline consumption of 350,000 barrels a day above target without consideration of the standby gasoline tax. Given the magnitude of the differences between the likely outcome and the target projected by both the Administration and CBO, 1985 gasoline consumption is not likely to be held beneath the target that will trigger the standby gasoline tax.

In short, President Carter's package produces sizeable gasoline savings -- equivalent to about 20 days of auto gasoline use in 1985 and 45 days in 1990. The provisions contained in this package do not appear to be sufficient, however, 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. As yet to be specified fuel economy standards for light trucks, authorized by the Congress under the Energy Policy and Conservation Act, 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. With rising fuel prices since 1973, many homeowners have already reinsulated, however, 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 most homeowners since the savings in fuel bills are about three times the cost of the insulation. The proposed credit would increase this ratio of savings to cost to 4 to 1.

Between now and 1985, we estimate that about 24 million homeowners and renters are likely to reinsulate. This translates into a total of 70 percent of residential homeowners as opposed to 90 percent as projected by the President. CBO estimates nearly 8 million of the 24 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 and related programs. The major difference is that we estimate that an additional 280,000 barrels a day will be saved by reinsulation that people would do without the Carter plan for a total of 400,000 barrels per day for all insulation. The Administration assumes that a total of 480,000 barrels a day of savings is induced by the plan.

Short-Run Impacts on the Economy

The Carter package would have a major impact on energy markets, 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 1.6 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 seven-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 almost entirely to final product prices would therefore cause roughly a 0.5 percent increase (5 percent of 10 percent) in the overall price level.

This direct pass through is not the end of the story, of course. On the one 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 other major price changes 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 increase over a shorter time period than the energy proposals.

Distribution Effects

A final issue 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 \$12 billion will be paid in 1980 (in 1977 price levels) 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 \$9 billion, leaving a net reduction in real purchasing power of approximately \$3 billion. In addition to this total effect, the energy proposals will redistribute purchasing power from persons in the upper four quintiles to the lowest quintile 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, 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, the auto-related proposals, and home insulation, it is possible that the potential 1985 oil import savings in the plan are closer to 3-1/2 million rather than the 4-1/2 million barrels a day assumed by the President. However, it is argued that 1985 is not a good year on which to focus since a large percentage of savings will take place after that time. In any case, the attainment of the goals depends considerably on the commitment of the Administration, since it 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 minor increases in unemployment would also result from enactment of the Carter plan. The other major effect of the program would be that the burden would undoubtedly be felt somewhat unevenly by Americans. In the aggregate the poor would be protected by the rebate system, however.

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.

