

[COMMITTEE PRINT]

ENERGY PROGRAM

6

ECONOMIC AND BUDGET CONSIDERATIONS

PREPARED FOR THE
COMMITTEE ON WAYS AND MEANS
HOUSE OF REPRESENTATIVES

BY THE STAFF OF THE
JOINT COMMITTEE ON TAXATION



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INTRODUCTION

This is the sixth pamphlet prepared for the Committee on Ways and Means during its markup sessions on the tax proposals in the Administration's energy program.

In this pamphlet, there are four sections. The first section states the energy problem and discusses some of its broader implications. Section II analyzes the effects of the Administration's energy proposals on energy supply and demand. Section III discusses the effects of the proposals on the gross national product, the unemployment rate, the Consumer Price Index, and other important economic variables. Section IV discusses the effects of the program on the Federal budget.

As in the case of the other pamphlets on the energy program, this pamphlet will be made available to the members of the House Ad Hoc Committee on Energy, Members of Congress and other interested persons.

I. NATURE OF THE ENERGY PROBLEM

The overall energy problem can be broken down into at least four separate problems: (1) The long-run depletion of the United States' and the world's resources of oil and gas, (2) the vulnerability of the United States and its allies to politically motivated disruptions of energy supplies because they rely on oil imports, (3) the effects of high prices or shortages of energy on the economy, and (4) the fact that increasing energy supply or reducing demand is often inconsistent with improving the environment. One of the reasons that an overall solution to the energy problem is so difficult is that solutions to any one aspect of the problem often aggravate other aspects of it.

Regardless of energy policy, there will be noticeable changes in the industrial structure and in the economic behavior of consumers and businesses. If no new policies are enacted, there will be a reduction in the rate of growth in the use of oil and gas simply because the oil and gas needed to maintain historical growth rates will not be available at current prices. As a result, oil and gas prices will rise, and conservation of oil and natural gas and conversion to coal and other alternative fuels will be matters of prudent decisionmaking.

The Administration's energy program involves using the taxing, spending and regulatory power of the Federal Government to produce changes in energy use patterns. The objective is to encourage shifts to the use of coal and other sources of fuel in place of oil and gas and to stimulate more efficient uses of oil and gas where conversion is either uneconomic or undesirable. The use of higher taxes in some cases and tax incentives in other cases is an effort to change the relative price structure for energy in a way that accelerates the inevitable changeover.

Either policy—the one reflected in present laws or the one proposed by the Administration—ultimately will lead to higher prices for oil and natural gas. Under a no-change policy, the depletion of domestic oil and gas reserves and growing demand for oil and gas will lead to even larger imports of oil and possibly natural gas. The high price of imported fuel will force increases in the price of domestic fuels. The exact timing of the price increases, or course, will be different than under the Administration's proposal.

An important difference between a no change policy and an attempt to reduce our dependence on oil imports in the next 10 years is that a reduction in oil imports would reduce the threat of worldwide oil shortages in the 1980's. Several recent studies have predicted that at present prices the worldwide demand for oil will greatly exceed the supply in the early 1980's. If these projections are correct, the result would either be sizable price increases, comparable to those that occurred in 1973 and 1974, or serious shortages. Because it uses one-third of the world's annual energy consumption, the demand for oil imports by the United States will be a significant factor in the overall worldwide demand for oil.

Resource depletion

Most energy consumed in the United States comes from depletable resources which will soon be much more scarce than they are today, and eventually we will have to convert from these depletable sources of energy to other, more abundant ones. This problem is most serious for oil and gas, which currently accounts for about 75 percent of the energy consumed in the United States. At prices prevailing in 1973, U.S. oil and gas resources are estimated to be large enough to provide only about 45 years of production at current levels of production, that is, until about the year 2020. Estimates of worldwide resources are less certain, but these will probably be largely depleted sometime in the first half of the next century as well.

Such an estimate, if correct, does not imply that we will simply run out of oil and gas at that time. Rather, there will be a gradual decline in U.S. production of oil and gas. Limited quantities of oil and gas will be available, probably at extremely high prices, well into the 21st century. It is possible that the annual rate of U.S. oil and gas production will never attain the peak it reached in 1970; however, even if an increase in drilling activity does lead to a higher rate of production for a period of time, there will still be a date when production peaks and after which the inevitable decline will set in.

Even though there is only a finite amount of oil and gas in the ground, the total amount of oil and gas that will eventually be extracted depends on public policies. Unless there are appropriate incentives for exploration, some inaccessible oil and gas deposits will never be discovered. The fraction of the oil or gas in a particular reservoir that can be extracted economically depends on the price of the oil or gas, the costs of bringing a well to production, the costs of secondary, tertiary and other supplementary recovery methods, and other economic variables.

Price and tax incentives may increase oil and gas supplies, but frequently those incentives which tend to increase the total amount of economically recoverable oil and gas resources also tend to increase the rate of extraction of the oil and gas reserves which are already economically recoverable. Thus it is not always clear whether an incentive for increased immediate supply alleviates the problem of the rate of long-run resource depletion or aggravates it.

In order to minimize the disruption resulting from the inevitable transition from oil and gas to other sources of energy, that transition should be spread over as long a period of time as possible. An abrupt transition would be economically disruptive for at least two reasons.

First, the existing stock of capital goods—buildings, machines, automobiles and other durable goods—requires oil and gas, and much of this capital stock will become much less valuable if oil and gas suddenly were to become unavailable. Thus, if the United States does not recognize the dwindling availability of oil and gas as it occurs and continues to produce capital goods which require oil and gas right up to the time when there is a shortage of those resources, there will be a considerable reduction in living standards in the years immediately after that occurs. If existing capital goods are gradually replaced by capital goods that do not require oil and gas, however, there is no reason to expect a major decline in living standards in any particular decade.

Second, we do not now have the technology to produce usable energy from several promising alternative sources at prices competitive with current oil and gas prices or the prices expected in the near future. Developing this technology will take time, and in order that it be available at the appropriate time, incentives (through taxes or expenditures) may have to be provided to stimulate development of that technology before it is actually needed.

The appropriate response to the problem of the eventual depletion of oil and gas resources, therefore, appears to be to stretch out the available oil and gas through conservation, to attempt to increase the amount of economically recoverable oil and gas resources in ways that do not also lead to premature depletion of existing reserves, to convert the existing petroleum-based capital stock gradually into one that can rely on alternative energy sources, and to stimulate development of technologies that permit the production and use of alternative sources of energy.

Supply disruption

Because the United States depends on imported oil for a large percentage of its oil supply (42 percent in 1976 and about 50 percent in early 1977) and because only a few countries are the sources of worldwide oil exports, we are vulnerable to politically motivated supply disruptions, such as the Arab oil embargo of 1973-74. Several of our major allies are almost totally dependent on oil imports. Unlike the problem of resource depletion, the threat of supply disruptions is potentially an immediate one. Such dependence on oil imports from a few countries places serious constraints on U.S. foreign policies.

One response to the threat of supply disruptions is to create a large strategic reserve of oil. The budget for 1978 includes \$1.7 billion to purchase petroleum for the reserve and to build adequate storage facilities, and the Administration has recommended that the reserve be doubled from 500 million to one billion barrels. Another response is to diversify our sources of oil imports, and those of our allies, by encouraging additional exploration for and development of oil reserves in countries who are not now major exporters.

Reducing oil imports also reduces our vulnerability to a supply disruption. To the extent this is achieved by reducing oil consumption, it is consistent with the policies needed to deal with the problem of depletion of oil resources. Oil imports could be reduced at the cost of a more rapid exhaustion of U.S. oil reserves, but this method of reducing vulnerability to disruptions of foreign supply in the near future is not consistent with stretching out our oil resources to provide a smoother transition to alternative energy sources. Moreover, to the extent that more rapid exhaustion of U.S. oil reserves is not accompanied by effective transition to alternative energy sources, the threat of disruptions of foreign supplies is merely delayed until the future.

Energy prices

Since 1973 energy prices paid by U.S. consumers have risen sharply. Crude oil and natural gas prices have roughly tripled, and coal prices have doubled. Were it not for price controls on crude oil produced in the United States and natural gas sold in interstate commerce, the price increases would have been still greater.

High prices for energy have several important economic effects. To the extent they increase faster than other prices, they increase the overall rate of inflation, both directly and by exacerbating any wage-price spiral. They also transfer income from consumers of energy to domestic and foreign energy producers, a redistribution that many people consider undesirable. (However, higher energy prices will, to some extent, lead to higher wages for workers in energy industries, like coal miners, and people may look differently upon this redistribution than upon higher income for energy producers and royaltyholders.) A significant adverse impact of higher prices has been that energy producers, particularly the governments of oil exporting countries, have tended to save a large fraction of their additional income, while energy consumers have tended to reduce their spending by a large fraction of their loss of income. This large reduction in overall spending was a major cause of the worldwide recession which began in late 1973 and from which the United States and several other major industrial nations have not yet fully recovered.

High prices, however, also have some beneficial effects. They encourage conservation, increase the production of energy and encourage the development of higher cost energy technology, all of which help deal with the problem of resource depletion and vulnerability to supply disruptions. Also, many policies that attempt to lower energy prices, such as price controls, interfere with market adjustments to prices that more accurately reflect the changing supply characteristics of major fuel and energy sources.

If the projections that worldwide demand for oil at current prices will exceed worldwide supply in the early 1980's are correct, there are likely to be significant oil price increases in those years. These will probably have the same adverse economic effects as the OPEC price increases of 1973-74.

Energy and environmental quality

Both the production and consumption of certain types of energy lead to considerable amounts of pollution, and since polluting does not affect profitability, the private market economy cannot be expected to make the correct decisions about what should be the appropriate trade-off between energy use and environmental quality. Alternative sources of energy present different environmental problems than does the use of oil and gas. Some alternative sources, such as solar power, generate virtually no pollution, but others, like nuclear power, coal and oil shale, present environmental issues that may be quite serious. The environmental impact of alternative energy policies is an important consideration in evaluating their relative merits.

II. EFFECTS OF ADMINISTRATION'S ENERGY PROGRAM ON ENERGY USE

Table 1 shows the Administration's estimates of the effects of its energy program on energy supply and demand. The base case estimates show what would happen if present policies are continued, and the Administration's estimates of the base case are consistent with most private forecasts. In the base case, energy consumption is expected to rise from the equivalent of 37 million barrels of oil per day (mbd) in 1976 to 48.3 mbd by 1985. While some of this growth in demand will be served by additional coal production and nuclear power, the largest single source of additional energy is expected to be oil imports. These are expected to rise from 7.3 mbd in 1976 to 11.5 mbd in 1985, or to slightly more than half of U.S. oil consumption. This much dependence on imported oil poses an obvious threat to our national security.

The base case forecast shows natural gas consumption to be lower in 1985 than in 1976. This decline will not be a result of a spontaneous decline in U.S. demand for natural gas but rather of declining domestic gas production and the extremely high costs of transporting gas from abroad. Under present policies, U.S. demand for natural gas is certain to be much greater than the 9.4 mbd that the Administration expects to be available from domestic supplies and imports, which means that there will be shortages of gas, probably worse than the shortages occurring last winter.

TABLE 1.—*Effect of Administration energy program on energy use*
[Millions of barrels of oil equivalent per day]

Energy source	1976 actual	1985 forecast	
		Base case	Adminis- tration program
Coal.....	6.8	10.9	13.3
Natural gas.....	10.0	9.4	9.4
Petroleum.....	17.4	22.8	18.2
Nuclear power.....	1.0	3.7	3.8
Hydropower and other.....	1.5	1.7	1.7
Total ¹	37.0	48.5	46.4
Oil imports.....	7.3	11.5	7.0
Gas imports.....	.5	1.2	.6

¹ Details do not add to total due to rounding error.

It should be noted that the Administration, in its base case forecasts shown in table 1, makes an assumption that may prove to be too optimistic. The Administration forecasts an increase in domestic petroleum production from 9.7 mbd in 1976 to 10.4 mbd in 1985. While Alaskan oil is likely to increase U.S. supplies by 2 mbd, petroleum production in the lower 48 States has been declining by an average of 250,000 barrels per day each year since 1970, a decline which shows no signs of abating despite a significant increase in drilling activity in recent years. Thus, Alaskan oil may do no more than offset declining production in the lower 48 States. For this reason and because of uncertainties about such things as weather, the Administration's base forecast may well understate future oil imports, perhaps by as much as 2 mbd.

The Administration intends its energy program to cause a modest reduction in overall energy consumption and a somewhat larger conversion from oil to coal. Overall energy consumption in 1985 is expected to decline from 48.5 mbd in the base case to 46.4 mbd if the Carter program were enacted, a decline of 1.9 mbd. Note that this represents a modest decline in the growth of energy consumption, not a reduction from current levels, so that there is no reason to expect the Administration's program to cause any major changes in living standards. The Administration also expects its program to increase coal consumption by 2.4 mbd. Together, the conservation and conversion program is expected to reduce oil imports by 4.5 mbd to a rate of 7.0 mbd. This is approximately the rate of imports that prevailed prior to the Arab oil embargo of 1973-74 and is slightly below the 1976 rate of imports.

Under the Administration's program, most of the reduction in oil consumption is expected to occur in industry. Electric utilities are expected to reduce oil use in 1985 by 0.7 mbd below the base case, and other industries by 3.0 mbd. The Administration expects its program to reduce oil use in the transportation sector by only 0.4 mbd and to reduce residential and commercial use of oil (largely for home heating) by only 0.5 mbd.

The Administration does not expect its program to reduce the actual consumption of natural gas; however, its program should significantly reduce the demand for natural gas in industry and thereby reduce the severity of future natural gas shortages.

There are some differences in the various estimates of the effects of the Administration program on energy demand. The Congressional Budget Office (CBO) expects the Administration program to reduce oil consumption in 1985 by 3.9 mbd, compared to the Administration's estimate of 4.5 mbd. The difference is largely that the CBO is more pessimistic about the extent to which the program will induce industrial conversion to coal. Other analysts have questioned whether it will be possible to double coal production by 1985, as is envisioned in the Administration's program, even if there is sufficient demand for coal.

III. EFFECT OF ADMINISTRATION'S ENERGY PROGRAM ON THE ECONOMY

It is now widely recognized that the increases in oil prices initiated by the Organization of Petroleum Exporting Countries (OPEC) in 1973 and 1974 were a major cause of the severity of the recession in the United States and other industrialized countries. In response to the 1973-74 experience, economic forecasters have developed more sophisticated ways to estimate the effects of energy developments and policies on the overall economy, particularly on such important economic variables as the rate of inflation, the rate of unemployment, and the rate of growth in gross national product (GNP). These analyses generally conclude that the Administration's energy proposals would have a relatively modest effect on the overall economy, although particular sectors of the economy may experience somewhat greater problems.

Review of 1973-74 experience

The recession that began in late 1973 and continued until early 1975, and from which the U.S. economy has not yet fully recovered, was the most serious economic downturn since the depression of the 1930's. Unemployment rose to 9 percent of the labor force, and real GNP—total production in the economy adjusted for inflation—declined by more than 6 percent. Similar declines in production occurred in other industrial countries.

Energy developments contributed to this worldwide recession in several important ways. Most important was the fact that the significant increase in energy prices reduced the amount of income which consumers had available to spend on other goods and services. The transfer of income from consumers in the oil-consuming countries to the governments of the oil-exporting countries led to a sharp decline in consumer spending in the U.S., Japan and Western Europe. Because most of the OPEC countries tended to save most of their additional income, this decline in consumer spending was not offset by an increase in exports.

The magnitude of this depressing effect of high oil prices on consumer spending can be gauged by observing the changes in the balance of payments for the OPEC countries. Their surplus on current account, which approximately equals the excess of their exports of goods and services over their imports, rose from \$3½ billion in 1973 to \$70½ billion in 1974. After 1974, the OPEC countries increased their imports from the rest of the world, and their current account surplus has been about \$40 billion in 1975 and 1976. For the U.S., imports of crude materials and fuel rose from \$9 billion in 1972 to \$32 billion in 1974.

The oil price rise also caused an increase in the price of oil and gas produced in the United States, although price controls restrained this price rise. Because U.S. oil and gas producers probably tend to spend a smaller fraction of any increase in income than do consumers, this

transfer of income probably also reduced spending in the United States to some extent, although by much less than the transfer of income to OPEC.

The second reason why the oil price increase depressed the U.S. economy was that it increased the already rapid rise in the overall price level by an additional 2 to 3 percentage points in 1974. Higher inflation by itself tends to discourage spending by both consumers and businesses. Also, the Federal Reserve System responded to the high rate of inflation by maintaining tight money policies through mid-1974, which further depressed housing and business investment in late 1974 and 1975.

Finally, the increase in the price of gasoline and the uncertainty about the future price and availability of gasoline reduced U.S. auto production. This fell from 9.7 million cars in 1973 to 7.3 million in 1974 and 6.7 million in 1975. Most of this sharp drop in auto production, however, was probably a result of the weakness of the economy generally.

Possible effects of Administration's proposals on overall economy

The Administration's energy program should have a much milder impact on the economy than the oil price increases of 1973 and 1974. While the Administration's proposal will raise energy prices, the increase will be smaller than the price increase initiated by OPEC, it will be phased in over a long period of time, and will be accompanied by specific programs to alleviate many of the adverse economic effects of the price increases.

Several specific Administration proposals will involve price increases to consumers. The equalization tax on price controlled crude oil will raise the refiner acquisition cost of crude oil from about \$11.60 per barrel to about \$14 per barrel over a 3-year period (assuming current oil prices), about six cents per gallon of gasoline if fully passed forward to the price at the pump. The standby gasoline tax, if triggered, will raise gasoline prices. The pricing policy for natural gas will involve some increase in natural gas prices for all users. Finally, the tax on industrial users of oil and gas will raise the prices of the goods produced by the industries subject to those taxes. Because the taxes would be phased in over a long period of time in the Administration's proposal—the wellhead tax over 3 years, the gasoline tax over at least 10 years, and the industrial users' tax over 7 years—and because natural gas prices rise only with a lag because of long-term contracts, the inflationary impact of the Administration's proposal in any single year may be relatively mild. Specific estimates of this impact are discussed below.

Unlike the price increases of 1973–74, the energy price increases under the Administration's proposal would not transfer a large amount of income from consumers to producers. Rather the revenue from the equalization tax and the standby gasoline tax would be fully rebated to consumers. Thus, these taxes should not cause a significant decline in consumer spending. The tax on industrial use of oil and gas would generate substantial net revenues, which would depress consumer spending as the tax is reflected in retail prices, but the bulk of these revenues would not be raised until the 1980's, and there is ample time to adjust the federal budget to achieve the appropriate fiscal impact before that time.

An important area of uncertainty concerns automobile sales, because any major decline in U.S. auto production would lead to a significant decline in total employment. Most forecasts, however, are that the auto efficiency tax and rebate proposal will not reduce total auto production in the United States by more than a modest amount.

The Administration's proposal can be expected to increase consumer or business spending through the emphasis on conversion to other fuels and on energy conservation. The home insulation credit should induce additional purchases of insulation. In addition, the business energy credits and the increased prices for oil and gas used in industry should encourage investments in energy saving equipment and in investments in coal-fired boilers and nuclear power plants to replace oil- and gas-fired boilers. Finally, to the extent that the proposal reduces oil imports, consumers will spend more on domestic goods and services.

Specific forecasts of economic impact of Administration's proposals

Table 2 presents a summary of five specific forecasts of the effects of the Administration's energy program on total production in the economy was that it increased the already rapid rise in the overall index. The forecasts come from three private forecasters (Wharton Econometric Forecasting Association, Inc., Data Resources, Inc., and Chase Econometrics, Inc.), the Administration and the Congressional Budget Office.

The forecasts are quite similar except for the Administration. The Administration's program is expected to have virtually no impact on real GNP in 1978, but by 1980 it would lower real GNP by 0.5 to 0.7 percent. This would increase the unemployment rate by 0.2 percent in 1980, or by about 200,000 workers. The adverse impact would occur in 1979 and 1980 and could easily be offset by other stimulative policies put in place in 1978.

The Administration, however, expects the program to have no impact on real GNP or employment, although it acknowledges that such estimates are uncertain and that there could be a modest positive or negative impact.

The estimates of the impact of the program on consumer prices vary somewhat more. In 1978 the rate of increase in consumer prices is expected to rise by 0.3 to 0.5 percent in response to the Administration's program. In 1979 the range is 0.6 to 1.1 percent. In 1980 the predicted price increase is within a range of 0.2 to 1.4 percent. The three principal uncertainties concerning the impact of the Administration's program on the rate of inflation are how much of the standby gasoline tax will be triggered, how much of the tax on crude oil will be passed through to consumers and how much absorbed by oil refiners, and whether these price increases will initiate a wage-price spiral.

The Administration estimates that one-third of the crude oil equalization tax will be absorbed by oil refiners and only two-thirds passed through to consumers as higher prices, but most other analysts use a smaller figure. (The Congressional Budget Office assumes virtually a complete pass-through.) The direct inflationary impact of the well-head tax should be about 0.2 percent per year for each of the next 3 years.

Each nickel of gasoline tax that is triggered would directly cause the Consumer Price Index to rise about 0.3 percent. Most analyses, however, indicate that only the first one or two 5-cent increases in the tax would be triggered in the next five years. The Administration estimates assume that the tax will not be triggered.

Typically, increases in consumer prices lead to wage increases, which cause further price increases, and such a wage-price spiral can multiply several times the inflationary effect of an initial increase in prices. However, most of the price increases in the Administration's energy program are offset by per capita tax rebates, and if the public perceives these rebates as being adequate offsets to the taxes, the wage-price spiral may not be as severe as is estimated by the econometric models referred to in table 2.

While the estimates in table 2 extend only through 1980, the Administration's program would also increase the rate of inflation in years after 1980.

TABLE 2.—*Effects of Administration proposal on selected economic variables, 1978–1980*

	1978	1979	1980
Real GNP (percent difference in level):			
Data Resources, Inc. (DRI) ¹ -----	–0.1	–0.4	–0.7
Wharton Econometric Forecasting Assoc. Inc. (Wharton) ² -----	0.0	–0.3	–0.5
Chase Econometrics, Inc. (Chase) ³ -----	0.0	–0.3	–0.5
Administration ⁴ -----	0.0	0.0	0.0
Congressional Budget Office (CBO) ⁵ -----	–0.2	–0.5	–0.7
Unemployment rate (difference in rate):			
DRI-----	0.0	+0.1	+0.2
Wharton-----	0.0	+0.1	+0.2
Chase-----	0.0	+0.1	+0.2
Administration-----	0.0	0.0	+0.2
CBO-----	0.0	+0.2	+0.2
Consumer Price Index (difference in rate of increase):			
DRI-----	+0.5	+1.1	+1.4
Wharton-----	+0.4	+0.8	+0.4
Chase-----	+0.3	+0.7	+0.8
Administration-----	+0.3	+0.6	+0.2
CBO-----	+0.5	+0.6	+0.5

¹ Testimony of Dr. Otto Eckstein before the Joint Economic Committee, May 20, 1977, and private communications to staff.

² Forecast of Apr. 21, 1977.

³ Forecast of Apr. 27, 1977.

⁴ Communication to staff.

⁵ Congressional Budget Office, *President Carter's Energy Proposals: A Perspective*, May 31, 1977.

Effects on specific sectors of the economy

Automobile sales.—Most analysts expect that the administration's energy proposals will have an adverse effect on automobile sales. To

the extent that higher gasoline prices, which would result from both the crude oil equalization tax and the standby gasoline tax, would cause people to reduce their driving, people will be able to use their existing autos for a longer period of time and will postpone purchasing a new car, and some people will decide to do without a car altogether. Higher gasoline prices may encourage purchases of foreign cars, which presently are more fuel-efficient than U.S. autos. These trends will be only partly offset by the tendency of higher gasoline prices to encourage more rapid scrapping of the existing stock of inefficient cars. The Administration's proposed rebate on efficient cars should mean that their proposal will not cause any net increase in car prices, but a gas guzzler tax without the rebate would increase car prices and, therefore, reduce auto sales. As an offset to those tendencies to reduce auto sales, the efficiency tax will encourage some purchases of the less efficient autos in the early years of the tax in anticipation of higher taxes in the future. Estimates of the possible decline in U.S. auto production under the Administration's tax and rebate proposal range from 200,000 to 500,000 cars. This is less than 5 percent of the industry's total sales in most years.

Business investment.—The Administration's energy program is likely to encourage business investment in some ways and discourage it in others. The stimulus to investment results from the incentives provided by the program to invest in energy conserving equipment or to replace existing oil- and gas-fired facilities with those using other sources of fuel. These investments could be quite large, particularly for coal conversion. Higher prices and taxes would tend to discourage investment.

The additional inflation resulting from the Administration's program, however, will probably reduce investment, particularly if the Federal Reserve System responds to higher prices by allowing interest rates to rise, as it did in 1974. Forecasters are divided on whether this depressing effect on investment will outweigh the stimulative effects. Data Resources, Inc., for example, predicts a decline in investment of 0.1 percent in 1978, 0.7 percent in 1979, and 0.8 percent in 1980 from its prediction without the new policy proposals. Wharton Econometric Forecasting Associates, Inc., however predicts a modest increase in the investment. CBO predicts a decline of 1.8 percent by 1980.

It seems reasonable, then, to expect that the net effect of the program on investment will be relatively modest. It is likely that, to some extent, investment is now being discouraged by uncertainty about the price and availability of various sources of energy, and probably the greatest deterrent to business investment in the long run would be the failure to enact a national energy policy which reduced this uncertainty.

Other sectors.—Clearly any policy that successfully achieves energy conservation will have an adverse effect on particular sectors of the economy which now use large amounts of oil and gas per unit of output. Because the Administration's program is phased in over a long period of time, the shocks to these industries in any single year should not be too drastic, but there is probably no way to avoid some adverse impacts on particular energy-intensive industries, if there is to be a reduction in the growth rate of U.S. energy consumption.

IV. BUDGET IMPLICATIONS

Administration proposal

Through the 8-year period (fiscal years 1978-85) over which the Administration program has been projected, the net change in budget totals has been estimated by the Office of Management and Budget to be a surplus of \$1.0 billion. The net increase in receipts has been estimated at \$51.5 billion, and outlays are expected to increase by \$50.5 billion. These budget totals are shown in table 3.

TABLE 3.—Effect of the energy program on the budget totals¹

[Fiscal years; in billions of dollars]

	1978	1979	1980	1981	1982-85	1978-85
Net receipts-----	0.3	2.2	4.8	5.5	38.8	51.5
Outlays-----	1.7	2.8	4.7	5.4	35.8	50.5
Change in deficit ³ —	+1.4	+.7	(²)	— .1	—3.0	—1.0

¹ Tentative estimates. Excludes effects on receipts from Naval Petroleum Reserves, which would range from \$2 to \$6 billion lower for 1978-85 than previously anticipated.

² \$50 millions or less.

³ Plus means increased deficit; minus means smaller deficit.

The energy program as proposed will contribute a small net increase to the budget deficit in fiscal years 1978 and 1979 of \$1.4 billion and \$651 million, respectively. In fiscal years 1980 and 1981, increased outlays and receipts offset each other. The cumulative increase in receipts during the 1978-81 period is \$12.8 billion while the net increase in outlays is \$14.6 billion:

In the second 4-year interval, fiscal years 1982 through 1985, net tax receipts would total \$38.8 billion, \$3.0 billion more than the \$35.8 billion net increase in outlays attributed to the energy program. Receipts will average \$9.7 billion higher each of these years, and outlays will average \$8.95 billion, appreciably higher than the levels reached in 1981.

Changes in outlays through 1985

Outlays associated with the energy proposals would total \$50.5 billion through 1985. Conservation measures make up 52 percent of the total increase, for the single largest component. As is shown in table 4, the strategic petroleum reserve and indexed Federal programs and pay will each produce 22 percent of the total increase. These estimates, especially the fiscal year breakdown, must be considered as highly tentative at the present time.

In his statement to the Ways and Means Committee, which was inserted in the committee record of the public hearings for May 16, 1977, OMB Director Lance stated that some of the additional tax receipts under the program are necessary to meet the higher costs which will be incurred because of higher outlays under the energy programs. These budget items will cost \$29.3 billion, or 58 percent of the total increased outlays. The remainder, \$21.2 billion or 42 percent of the total, will be used for those rebates which are not treated as refunds of tax collections.

TABLE 4.—*Preliminary budget estimates of Administration energy proposals, fiscal years 1978–85¹*

[Dollar amounts in millions]

Initiative	1978	1979	1980	1981	1978–81 cumu- lative	1982–85 cumu- lative	1978–85	
							Cumu- lative	Percent
Energy conservation retrofits (weatherization)-----	\$49	\$106	\$180	\$200	\$535	\$815	\$1,350	2.7
Grants for schools and hospitals-----	150	300	300	150	900	-----	900	1.8
Solar—Federal buildings-----	19	32	31	18	100	-----	100	.2
Conservation—Federal build- ings-----	110	150	480	480	1,220	1,450	2,670	5.3
Increased Government fuel costs-----	112	303	384	402	1,201	1,694	2,895	5.7
Oil and gas regulation-----	1	4	35	67	107	268	375	.7
Emergency assistance to poor--	50	50	50	50	200	200	400	.8
Strategic reserve ² -----	216	318	500	251	1,285	9,745	11,030	21.8
Energy R. and D-----	–106	–357	–393	–448	–1,304	–730	–2,034	–4.0

Auto inefficiency tax ³ -----	500	500	500	700	2,200	5,500	7,700	15.3
Wellhead tax ³ -----	499	1,177	1,914	2,108	5,698	7,818	13,516	26.8
Other ⁴ -----	62	67	64	45	238	192	430	.9
Indexing—Federal program payments tied to CPI ⁵ -----	10	190	700	1,390	2,290	8,860	11,150	22.1
Total-----	1,672	2,840	4,745	5,413	14,670	35,812	50,482	100.0
Net revenue impact of pro- gram-----	-253	-2,189	-4,788	-5,491	-12,721	-38,789	-51,510	-----
Impact on deficit ⁶ -----	1,419	651	-43	-78	1,949	-2,977	-1,028	-----
Naval petroleum reserves:								
Low estimate-----	296	567	949	84	1,896	-----	1,896	-----
High estimate-----	296	567	949	1,100	2,912	2,948	5,860	-----

¹ Tentative estimates which will be subsequently subjected to a detailed budget review.

² Includes increase in outlays because of higher oil prices for first 500 million barrels and the estimated cost of the second 500 million barrels of storage to attain the 1 billion-barrel goal.

³ Portion of rebate paid through the Treasury.

⁴ Includes utility pricing, coal conversion, interconnections and wheeling, information systems, appliance efficiency, mandatory building standards, fuel efficiency standards, fuel economy for the

Federal fleet, fuel economy for light-duty trucks, and receipts for land and water conservation fund.

⁵ Includes effect of energy proposals on Federal pay and on Federal programs indexed to the cost of living including social security, civil service, and military retirement, food stamps and school lunch programs.

⁶ A plus means increase to the deficit; a minus means a decrease to the deficit.

Tax receipts from both the crude oil (or wellhead) and auto inefficiency taxes would be rebated under the President's proposals, after offsetting reductions attributed to administrative costs and tax payments treated as business deductions. Rebates of the crude oil tax would take two forms—an offset of the tax included in the price of residential heating oil and a general per capita rebate to each taxpayer and each of his dependents and beneficiaries of various social programs, such as social security, aid to families with dependent children and supplemental security income. Some of these programs are indexed for inflation and the beneficiaries will receive both direct payment rebates as well as inflation adjustments of the benefits. Rebates of the receipts from the auto inefficiency tax will go to purchasers of fuel-efficient autos; this would be a required reduction reflected in the sticker price and shown on the sticker. These rebates of the Administration proposal are estimated at \$13.5 billion for rebates of the crude oil tax and \$7.7 billion for rebates to purchasers of fuel efficient automobiles. These are estimates for the entire 8-year period from 1978 through 1985. Substantially more than half of the rebates would be made in the last four years.

Costs of equipping Federal buildings to conserve energy would increase outlays by \$2.8 billion during the 8-year period, and grants to individuals, schools and hospitals for the costs of insulation and other weatherization steps will add \$2.2 billion to outlay. Adding solar heating units to Federal buildings would cost \$100 billion through 1981 and nothing thereafter under the proposal.

The proposal to expand the Strategic Petroleum Reserve to 1 billion barrels—doubling the earlier goal—will add \$11 billion to outlays. This is an average cost of \$22 per barrel for the oil, transportation, storage and other associated costs. Imported oil will be purchased for the reserve, and this spending is not an offset against taxes in the U.S. economy. This will have a deflationary effect on domestic, private spending. Close to 90 percent of this total will be spent after 1981, after the first half of the projected reserve has been purchased. It will cost the Federal Government an additional \$11.2 billion to meet the effects of the higher prices for energy on the consumer price level which in turn affect Federal programs and Federal pay that are indexed for inflation. The other major increase in outlays is \$2.9 billion for increased fuel bills which the Federal Government will pay in its role as a consumer.

The estimates of outlays do not show a potential increase in outlays that will arise from a decline of receipts from the sale of petroleum from Elk Hills, Calif., Naval Petroleum Reserve. In the budget book-keeping for many years, receipts from the sale of petroleum from naval reserves has been treated as an offsetting receipt that reduces total budget outlays. Previously planned production levels from Elk Hills probably would be reduced because an oil surplus is now anticipated on the West Coast once Alaskan oil production reaches its planned operating level. The surplus would make it desirable to produce at a lower level from Elk Hills, thereby reducing receipts from the sale of this oil and also reducing the offset against outlays. OMB estimates the reduction would increase outlay totals by \$2 to \$6 billion, depending on the flow of oil from Alaska. The budget for fiscal year 1978 shows estimated receipts from naval petroleum reserves of \$400

million. The fiscal year losses under the higher cost estimate fall equally in both halves of the eight year projection period and all losses occur in the first four years under the low cost estimate of the decline in receipts.

Energy research and development expenditures will decline by \$2.0 billion. The reductions result from less activity in some nuclear energy areas and increased funds for research on fossil, geothermal and solar energy and also on nuclear nonproliferation.

Budget receipts

Estimates of changes in budget receipts from the various tax and incentive proposals in the Administration energy program were presented to the Ways and Means Committee by Secretary of the Treasury Blumenthal. These estimates for each fiscal year, 1978 through 1985, and the cumulative totals for each separate proposal at the end of fiscal year 1985, are shown in table 5.

TABLE 5.—Estimated revenue impact of the energy program on budget receipts, fiscal years 1978–85

[In millions of dollars]

	Fiscal year								
	1978	1979	1980	1981	1982	1983	1984	1985	1978–85
Auto inefficiency tax (effective Sept. 1, 1977).....	¹ 500	¹ 500	¹ 500	¹ 700	¹ 900	¹ 1, 200	¹ 1, 500	¹ 1, 900	¹ 7, 700
Crude oil equalization tax net of rebates (effective Jan. 1, 1978)....	² 499	² 1, 177	² 1, 914	² 2, 108	² 2, 053	² 1, 986	² 1, 919	² 1, 860	² 13, 516
Standby gasoline tax (effective Jan. 1, 1979).....	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)
Residential energy credits (effective Apr. 20, 1977, through Dec. 31, 1984):									
(a) Thermal efficiency (insulation, etc.) ⁴	–360	–445	–469	–494	–520	–550	–581	–517	–3, 936
(b) Solar energy.....	–32	–68	–75	–59	–68	–66	–81	–99	–548
Business energy credits (effective Apr. 20, 1977, through Dec. 31, 1982):									
(a) Thermal efficiency.....	–306	–307	–349	–428	–488	–317	.....	.....	–2, 195
(b) Cogeneration ⁵	–52	–62	–106	–157	–214	–139	.....	.....	–730
(c) Alternative energy ⁶	–4	–9	–19	–33	–46	–28	.....	.....	–139
Oil and natural gas consumption taxes—rebate for investment in alternative energy facilities:									
(a) Tax, net of rebate: electric utilities (effective Jan. 1, 1983).....	.....	.....	.....	.....	.....	86	123	101	310
(b) Tax, net of rebate: other businesses (effective Jan. 1, 1979).....	.....	1, 403	3, 444	4, 169	4, 918	6, 529	8, 278	11, 862	40, 603

Tax incentives for certain energy resource supplies (effective Apr. 20, 1977):									
(a) Expensing of intangible drilling costs, geothermal discovery and development-----	-5	-10	-17	-21	-20	-20	-32	-54	-179
(b) Limitation of minimum tax on intangible drilling costs to amount in excess of net related income-----	⁷ -19	-32	-37	-42	-48	-56	-65	-74	-373
Aviation fuels tax revision (effective Oct. 1, 1977)-----	44	47	50	55	61	66	71	76	470
Revision of tax on gasoline for use in motorboats (effective Oct. 1, 1977)-----	1	4	4	4	4	4	4	4	29
Repeal excise tax on buses (Apr. 20, 1977)-----	-13	-9	-9	-9	-9	-9	-9	-9	-76
Total, excluding standby gasoline taxes-----	253	2,189	4,831	5,793	6,523	8,686	11,127	15,050	54,452

¹ Taxes shown will be fully rebated on the expenditure side of the budget.

² Taxes shown are net of refunds and income tax rebates and offsets and will be fully rebated on the expenditures side of the budget.

³ Tax collected, if any, will be fully rebated. Collections after income tax rebate each year will range between zero and the following maximum allowable amounts: 1979, \$0.9 billion; 1980, \$2.0 billion; 1981, \$3.2 billion; 1982, \$4.4 billion; 1983, \$5.6 billion; 1984, \$6.8 billion; and 1985, \$8.0 billion. These amounts will be fully rebated as expenditures.

⁴ In order to achieve the desired level of conservation, it may prove necessary to have mandatory standards affecting homes sold. The absence of any experience with the insulation incentives provided by this bill makes it difficult to estimate the level of insulation. The estimates presented here are relatively conservative. It is

assumed that mandatory standards, effective Jan. 1, 1980, would give rise to the following tax loss:

	Fiscal year						
	1980	1981	1982	1983	1984	1985	1980-85
Additional revenue effect	-43	-302	-395	-532	-835	-835	-2,942

⁵ Includes effects of elimination of declining block rates.

⁶ Coal conversion and solar equipment.

⁷ The Conference agreement on H.R. 3477 includes this provision, effective for 1977 only. Thus, if H.R. 6831 is enacted, this provision will have no revenue effect in calendar year 1977 or fiscal year 1978. Source: Statement of the Secretary of the Treasury, May 16, 1977.

Treasury estimates that net budget receipts will increase each fiscal year during the 8-year period through 1985. The net gain will be \$253 million in fiscal year 1978 and will rise annually to \$15.1 billion in 1985. The estimates of receipts presented in the table are net of rebates of tax payments through the tax system to taxpayers. Rebates to nontaxpayers will be treated as outlays, and the tax receipts which will fund those outlays are included among these estimates of receipts.

Gross tax receipts obviously would be higher, and revised receipts estimates that show gross receipts are presented in table 6. Gross receipts under the tax program start at \$2.5 billion in fiscal year 1978, rise to \$9.5 billion in 1979, \$19 billion in 1980, and \$35.1 billion in 1985.

TABLE 6.—*Increase in gross budget receipts in Administration energy proposals, fiscal years 1978–85*
[In millions of dollars]

	Fiscal year—							
	1978	1979	1980	1981	1982	1983	1984	1985
Net receipts (from table 5)-----	253	2, 189	4, 831	5, 793	6, 523	8, 686	11, 127	15, 050
Credits under crude oil equalization tax-----	2, 282	5, 993	10, 039	11, 607	11, 285	10, 915	10, 653	10, 450
Credits under oil and natural gas consump- tion tax-----		1, 342	4, 111	6, 330	7, 549	9, 852	10, 834	9, 603
Total, gross receipts-----	2, 535	9, 524	18, 981	23, 730	25, 357	29, 453	32, 614	35, 103

Source: Secretary Blumenthal's statement to Ways and Means Committee, May 16, 1977.

Although the Administration has stated its intention to return all the taxes collected under the auto inefficiency, crude oil equalization and standby gasoline taxes, it is not clear from their legislative draft that the administrative mechanics will work as well as they expect. These are significant potential shortcomings because those three taxes and the oil and gas consumption tax have been designed to deter inefficient energy use and to discourage uses of oil and gas that could be converted to other fuel sources.

As shown in table 5, receipts from the first three taxes would be distributed to nontaxpayers as outlays. To the extent the payments of those funds occur during the same fiscal year, the deflationary impact of the taxes will be offset fairly well. If the taxes are not returned until a later fiscal year and not offset by another expenditure or larger than anticipated tax credits under one of the incentive programs, the net budgetary effect will be deflationary. This effect would be a matter for no concern in 1981 if the Administration's plan for a balanced budget would be accompanied by full employment, but if unemployment, estimated as 7.0 percent for April 1977, is not reduced by 1981, additional deflationary pressure may have a noticeable, negative impact on the economy.

CBO analysis

The analysis of the Congressional Budget Office of the budget effect of the recommendations in the first 3 years is summarized in table 7. This presentation shows increased budget deficits in fiscal years 1978 and 1979. The net deficit in 1978 would be \$2.1 billion, and the deficit increases to \$2.68 billion in 1979. These effects are the result of a slower change to conversion and conservation than the Administration anticipates in its program.

The distribution of changes in outlays is shown in table 8. Federal programs whose costs are tied to changes in the cost of living would increase by as much as \$3.5 billion in 1980 and \$5.0 billion in 1985. The Administration's estimate for 1980 is \$700 million and the cumulative cost through 1985 is \$11.2 billion. The next largest increase is the cost of raising the strategic petroleum reserve to one billion barrels. This action which involves purchasing imported oil will cost \$482 million in 1980, according to this estimate. The Administration estimates the eight year cost at \$11 billion. These outlays estimates do not include the expenditure portion of the proposed per capita rebates of the crude oil equalization and standby gasoline taxes.

TABLE 7.—Aggregate budget impact of Administration energy program,
fiscal years 1978-80
[Billions of dollars]

Budget category	Fiscal year		
	1978	1979	1980
1. Net tax revenues-----	-0.99	2.34	7.43
2. Direct expenditures-----	1.14	5.02	5.97
3. Loss of NPR sales-----	.40	.70	
Net increased budget deficit*----- ¹	-2.13	-2.68	1.46

*Item 1 minus item 2 and 3.
¹ Negative means increased budget deficit.
Source: Congressional Budget Office, *President Carter's Energy Proposal: A Perspective*, May 31, 1977.

TABLE 8.—Direct Federal expenditures of Administration energy plan
[In millions of dollars]

Program component	Fiscal year—		
	1978	1980	1985
Strategic petroleum reserve expansion--	216	482	
Building conservation programs-----	330	1,000	
Increased Federal fuel costs-----	110	360	1,100
Energy R. & D.-----	-116	-400	-250
Other programs:			
National Energy Act-----	48	28	
National Energy Plan-----	100	90	95
Indexed programs-----	449	3,459	5,025
Total-----	1,137	5,019	5,025

Source: Congressional Budget Office, *President Carter's Energy Proposal: A Perspective*, May 31, 1977.

In table 9, the anticipated effects of the tax proposals are shown. This table and table 5 which presents the Administration's estimates differ in several respects. No revenue estimates are given in table 9 for the auto efficiency tax and the alternative energy tax credits for business; all the receipts under the crude oil equalization tax are completely offset by revenues. In table 5, the Administration offsets tax receipts with rebates through the tax system before determining the net change in revenues. Receipts listed for the auto efficiency tax and the crude oil equalization tax are that part of total receipts from those taxes which would be rebated as expenditures by the Federal Government. As a result the annual net change in receipts as estimated by these sources necessarily must be different.

CBO's revenue estimates do not agree with some of the revenue estimates presented to the committee by the Secretary of the Treasury. The alternative estimates primarily reflect the CBO belief that consumers will purchase insulation and solar energy and energy conserving equipment at a slower rate than estimated by the Administration; for fiscal years 1978, 1980, and 1985, CBO estimates shortfalls of \$157 million, \$116 million, and \$209 million, respectively. Similarly, CBO and Treasury disagree on estimates of receipts from the oil and gas consumption tax and the amount of rebates that would be paid to industrial firms on conversion to coal. For 1980, CBO anticipates greater tax receipts, a larger rebate and a smaller net gain for the general fund than does Treasury. In 1985, Treasury estimates greater tax receipts but smaller rebates and a larger net gain in revenues than does CBO.

As a result of these differences, these two sets of estimates are in disagreement about the total revenue effects in each year. In the 3 years, 1978, 1980, and 1985, for which comparisons can be made, CBO estimates a net revenue loss of \$585 million in contrast with Treasury's net revenue increase of \$253 million, making the difference \$838 million. The CBO net gain in 1980 is \$3 billion, which is \$1.8 billion below the Treasury estimate for that year. In fiscal year 1985, the difference is \$8.7 billion with the CBO estimate at \$7.4 billion and the Treasury Department's at \$15.1 billion.

TABLE 9.—*Estimated revenue gains and losses from Administration proposed energy tax provisions, fiscal years 1978, 1980, and 1985*

[In millions of dollars]

Tax provision	1978	1980	1985
Revenue-losing provisions:			
Thermal efficiency credit—residential (insulation tax credits).....	-224	-391	-314
Thermal efficiency credit—industrial and commercial.....	-306	-349	-----
Cogeneration credit.....	-52	-106	-----
Solar equipment credit—residential.....	-11	-37	-93
Expense geothermal intangible drilling costs.....	-5	-17	-54
Restricting minimum tax on intangible drilling cost.....	-19	-37	-74
Repeal of excise tax on intercity buses.....	-13	-9	-9
Subtotal revenue losses.....	-630	-946	-544
Revenue-gaining provisions:			
Motorboat and airplane fuels tax.....	45	54	80
Coal conversion incentives—industrial taxes:			
Revenues.....		9,758	19,398
Rebates.....		-5,831	-11,607
Net gain.....		3,927	7,791
Coal conversion incentives utility taxes net of rebate.....			101
Crude oil equalization tax:			
Revenue.....		18,800	17,967
Rebates.....		-18,800	-17,967
Subtotal revenue gains.....	45	3,981	7,972
Total tax effects.....	-585	3,035	7,428

Source: Congressional Budget Office, *President Carter's Energy Proposal: A Perspective*, May 31, 1977.

V. EFFECTS ON INCOME DISTRIBUTION

CBO estimates

CBO has estimated the effect of the tax and rebate proposals on families according to their relative position in the distribution of income. CBO has estimated that \$8.6 billion (in 1977 level prices) would be available for distribution as direct cash rebates in 1980 and \$23.9 billion in 1985. The substantial increase in the amount available for rebates is the assumption that the gasoline standby tax would be triggered into effect for 1983 and would be increased in each subsequent year. All rebates would be distributed on an equal per capita basis, so that large families, whatever may be their income, would receive larger payments. The burden of the taxes according to relative incomes has been determined according to information derived from research into consumer behavior.

Generally, as shown in table 10, the lower-income families would receive more in return from the rebates than they will pay in higher energy taxes. Estimates have been made in terms of 1977 constant dollars for the income distribution effects in 1980 and 1985. Families are grouped in terms of fifths of the income distribution.

In 1980, the families in the lowest three-fifths of the income distribution, incomes through \$11,198, would receive more through rebates than they would pay in energy taxes. In the lowest fifth, incomes under \$3,800, families would receive rebates that average \$139 and pay increased taxes of \$58, for a net gain of \$81. The net gain per family would be \$35 for the second lowest fifth, and only \$2 per family in the middle fifth. In the highest fifth, incomes over \$17,010, the net loss, that is, taxes exceeding rebates, would be \$120.

In 1980, rebates would exceed taxes for families in the two lowest fifths of the income distribution, with the net gain being \$94 and \$13, respectively, for the average family in lowest and second lowest fifths (incomes below \$7,457). The absolute amounts of tax and rebate would be higher, even though expressed in constant 1977 prices, because the gasoline tax would have been triggered into effect before 1985. The net loss for the highest income (over \$17,010) families would be \$210, greater than the average net rebate to either of the two lowest income fifths.

Generally, the burden of the energy taxes increase in amount absolutely as income rises, but the taxes do not increase as fast as income which makes them less of a burden in proportion of income. This is the definition of regressive taxation. This regressive pattern was found

to be specially true of the gasoline and auto inefficiency taxes. The rebates, however, because of their equal per capita determination are neutral in concept, but because average family size generally increases with income. The general tendency is to make the rebates a declining as a percentage of income as income rises.

TABLE 10.—*First-round increases in expenditures per family resulting from energy proposals¹ and rebates per family, estimates for fiscal years 1980 and 1985*

[Dollar amounts in 1977 constant prices]

Families ranked by money income	Induced cost increases relative to present policy			Net gain or loss		
	Gasoline	Other goods and serv- ices	Total	Re- bate	1977 dollars	As a percent of real income
1980						
Under \$3,800-----	\$11	\$47	\$58	\$139	+\$81	+2.8
\$3,800-\$7,456-----	23	107	130	165	+35	+.6
\$7,457-\$11,198-----	33	162	195	197	+2	+.0
\$11,199-\$17,010-----	40	217	257	231	-26	-.2
\$17,011 and over-----	48	320	368	248	-120	-.4
Average-----	31	170	201	197	-4	-0.0
1985						
Under \$3,800-----	49	52	101	195	+94	+3.0
\$3,800-\$7,456-----	103	113	216	229	+13	+.2
\$7,457-\$11,198-----	149	170	319	274	-45	-.3
\$11,199-\$17,010-----	177	231	408	321	-87	-.4
\$17,011 and over-----	215	338	553	343	-210	-.6
Average-----	139	183	322	272	-50	-.3

¹Gas-guzzler taxes and rebates on new cars and home insulation provisions are not included.

Source: Congressional Budget Office, *President Carter's Energy Proposal: A Perspective*, May 31, 1977.

Administration estimates

The per capita rebates under the Administration energy tax proposal would exceed the increase in taxes for individuals with incomes below \$5,000. In 1978, the rebates also would exceed increased taxes for individuals with incomes through \$15,000. In 1979 and 1980, the excess of rebates would prevail through incomes of \$10,000. Individuals with incomes less than \$5,000 would be the only ones to receive a net rebate in 1985.

The Administration's estimates are presented in table 11, and four years are covered in the table—1978, 1979, 1980 and 1985. The tables cover all income-earning individuals, including those who have no income tax liability. For each year, the table shows an estimate of 1977 tax liability for each income class, the amount of energy taxes likely to be paid by each income class, the percentage to be paid by each income class, the amount and percentage distribution of the per capita energy rebates, and the net change in tax liability as a result of both the taxes and rebates.

The bulk of the increase in taxes in 1978 (77 percent) falls on individuals with incomes from \$5,000 through \$30,000. Those with incomes \$15,000 and below would receive 76 percent of the rebates in that year. The same relationship is maintained through each of the three other years shown on the table. By 1985, 72 percent of the increased taxes falls on the incomes \$5,000 through \$30,000—a decline of 5 percent from 1978. The shift primarily is to higher income classes. The bulk of the rebates, also 72 percent, in 1985 goes to the first three income classes, those with \$15,000 and less income.

Energy taxes would increase from \$1.9 billion in 1978 to \$6.3 billion in 1979, \$10.9 billion in 1980 and \$18.9 billion in 1985. Total rebates

would be greater in 1978—\$2.7 billion—but thereafter the increased taxes outweigh the rebates. By 1985, total rebates would be \$9.9 billion which is \$9.0 billion below the tax increase.

The estimated income distribution effects estimated by CBO and the Administration are different. Part of the difference is attributable to different assumptions of the effects of the energy taxes that have been proposed and, consequently, the extent to which rebates will become available. For example, the CBO has assumed that the standby gasoline tax and its accompanying rebate would go into effect by 1982. The Administration has assumed this standby tax would not go into effect.

By 1985, however, the general patterns are fairly close. CBO estimated that individuals with incomes below \$7,457 would be net gainers; the Administration estimates that only those with incomes below \$5,000 would have net gains from the tax and rebate combination.

Other differences between the two are that the CBO estimates of rebates and taxes are presented on a per family basis, while the Administration's estimates are the total amount taxes and rebates paid in each income class. CBO's estimates are presented in terms of constant 1977 prices and have assumed a growth in real income of 2 percent each year; the annual growth of income in current prices was estimated at 6 percent. The Administration's estimates, on the other hand, are presented in current prices and assume an annual growth rate of 12 percent. In terms of the estimates of inflation rates, the two studies can be described as defining the limits within which the actual rate of inflation probably will fall.

TABLE 11.—*Estimated impact of energy taxes and rebates on individuals, by income class in calendar years 1978, 1979, 1980 and 1985*

[In millions]							
Adjusted Gross Income Class	Income tax liability including 1977 law ¹	Direct and indirect energy taxes on individuals ²		Per capita energy rebates ³		Net change in tax liability	
		Amount	Percentage distribution	Amount	Percentage distribution	Amount	Percent of 1977 law income tax
Calendar Year 1978							
Less than \$5-----	\$217	\$227	11. 7	—\$948	34. 5	—\$721	—332. 3
\$5 to \$10-----	10, 438	348	17. 9	—665	24. 2	—317	—3. 0
\$10 to \$15-----	22, 840	428	21. 9	—467	17. 0	—39	—0. 2
\$15 to \$20-----	28, 994	367	18. 8	—291	10. 6	76	0. 3
\$20 to \$30-----	41, 692	357	18. 4	—252	9. 2	105	0. 3
\$30 to \$50-----	28, 077	138	7. 1	—89	3. 3	49	0. 2
\$50 to \$100-----	20, 901	58	3. 0	—29	1. 1	29	0. 1
\$100 or more-----	17, 225	21	1. 1	—6	. 2	15	0. 1
Total-----	170, 386	1, 944	100. 0	—2, 745	100. 0	—801	—0. 5
Less than \$15-----	33, 495	1, 003	51. 6	—2, 081	75. 8	—1, 078	—3. 2
\$15 to \$30-----	70, 687	924	37. 2	—543	19. 8	181	0. 3
\$30 or more-----	66, 203	219	11. 3	—125	4. 5	94	0. 1

Calendar Year 1979							
Less than \$5.....	\$243	\$755	11.9	—\$1,926	31.8	—\$1,171	—481.9
\$5 to \$10.....	11,691	1,042	16.4	—1,415	23.4	—373	—3.2
\$10 to \$15.....	25,581	1,329	20.9	—1,072	17.7	257	1.0
\$15 to \$20.....	32,473	1,168	18.4	—712	11.8	456	1.4
\$20 to \$30.....	46,695	1,188	18.7	—623	10.3	565	1.2
\$30 to \$50.....	31,446	514	8.1	—219	3.6	295	0.9
\$50 to \$100.....	23,409	250	3.9	—71	1.2	179	0.8
\$100 or more.....	19,292	102	1.6	—13	.2	89	0.5
Total.....	190,832	6,348	100.0	—6,050	100.0	298	0.2
Less than \$15.....	37,514	3,127	49.3	—4,413	72.9	—1,286	—3.4
\$15 to \$30.....	79,169	2,355	37.1	—1,336	22.1	1,019	1.3
\$30 or more.....	74,147	865	13.6	—303	5.0	562	0.8

TABLE 11.—*Estimated impact of energy taxes and rebates on individuals, by income class in calendar years 1978, 1979, 1980 and 1985*

[In millions]							
Adjusted Gross Income Class	Income tax liability including 1977 law ¹	Direct and indirect energy taxes on individuals ²		Per capita energy rebates ³		Net change in tax liability	
		Amount	Percentage distribution	Amount	Percentage distribution	Amount	Percent of 1977 law income tax
Calendar Year 1980							
Less than \$5.....	\$272	\$1, 302	11. 9	—\$2, 913	29. 8	—\$1, 611	—592. 3
\$5 to \$10.....	13, 094	1, 768	16. 2	—2, 226	22. 8	—458	—3. 5
\$10 to \$15.....	28, 651	2, 271	20. 8	—1, 785	18. 3	486	1. 7
\$15 to \$20.....	36, 370	2, 001	18. 3	—1, 238	12. 7	763	2. 1
\$20 to \$30.....	52, 296	2, 047	18. 8	—1, 081	11. 1	966	1. 8
\$30 to \$50.....	35, 220	898	8. 2	—378	3. 9	520	1. 5
\$50 to \$100.....	26, 218	443	4. 1	—120	1. 2	323	1. 2
\$100 or more.....	21, 607	181	1. 7	—23	. 2	158	0. 7
Total.....	213, 732	10, 913	100. 0	—9, 766	100. 0	1, 147	0. 5
Less than \$15.....	42, 016	5, 341	48. 9	—6, 923	70. 8	—1, 582	—3. 8
\$15 to \$30.....	88, 669	4, 048	37. 1	—2, 319	23. 8	1, 729	1. 9
\$30 or more.....	83, 045	1, 522	13. 9	—520	5. 3	1, 002	1. 2

Calendar Year 1985							
Less than \$5.....	\$479	\$2,280	12.1	—\$3,066	31.0	—\$786	—164.1
\$5 to \$10.....	23,076	2,872	15.2	—2,288	23.1	584	2.5
\$10 to \$15.....	50,493	3,807	20.1	—1,772	17.9	2,035	4.0
\$15 to \$20.....	64,095	3,414	18.1	—1,204	12.2	2,210	3.4
\$20 to \$30.....	92,167	3,586	19.0	—1,054	10.7	2,532	2.7
\$30 to \$50.....	62,070	1,675	8.9	—369	3.7	1,306	2.1
\$50 to \$100.....	46,205	884	4.7	—118	1.2	766	1.7
\$100 or more.....	38,079	374	2.0	—23	.2	351	0.9
Total.....	376,669	18,893	100.0	—9,894	100.0	8,999	2.4
Less than \$15.....	74,047	8,960	47.4	—7,126	72.0	1,834	2.5
\$15 to \$30.....	156,265	7,000	37.1	—2,259	22.8	4,741	3.0
\$30 or more.....	146,354	2,934	15.5	—510	5.2	2,424	1.7

¹ Includes tax changes resulting from Public Law 75-30. Current year tax liability calculated assuming a 12-percent annual growth rate.

² Energy taxes distributed to all individuals according to estimated personal consumption and gasoline expenditures.

³ Rebates and payments to nontaxpayers under the crude oil equalization tax. At 1978 levels of income this rebate would equal \$15; at 1979 levels, \$30; at 1980 and 1985 levels, \$45.

NOTE: Figures may not add to totals due to rounding. Distributions are based on those obtained for 1976.

SOURCE: Office of the Secretary of the Treasury, Office of Tax Analysis, June 2, 1977.

