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BEFORE THE  
TASK FORCE ON DISTRIBUTIVE IMPACT  
OF BUDGET AND ECONOMY POLICIES  
COMMITTEE ON THE BUDGET  
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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 committees in both houses of Congress, the Congressional Budget Office has begun to examine and evaluate these proposals. Today I would like to discuss the effect of this plan on income distribution. More detailed analyses of this and other aspects 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 six points: (1) the rationale for rebates under the plan; (2) the principal distributional impacts; (3) the sources of revenue under the plan; (4) the effects on residential heating and home insulation; (5) the macro-economic effects of the plan; and (6) the impact on energy suppliers.

#### Rationale for Rebates

President Carter's energy proposals rely heavily on economic incentives to conserve fuel, to switch large industries and utilities from use of oil and gas to use of coal, and to increase domestic energy supplies. Many of these economic incentives operate through higher energy prices; others are effectively penalties on energy use. Taken together, they tend to encourage conservation and conversion to coal which is relatively abundant.

It is sometimes objected that taxing a commodity like gasoline or crude oil and then rebating the tax revenues is simply taking money away and then giving it back after running it through a



bureaucracy. This is not the case. An excise or other tax on a commodity raises the price, with the returns from the increased price going to the government rather than to the producers in the form of windfall profits. Because of the higher price, consumers will buy less of the commodity, which is the objective of the tax in the first place. However, most people will still continue to buy some of a commodity like gasoline even at the higher price. If they did not, there would be no tax revenues collected to rebate. Apart from the desirable effect of the tax in reducing consumption the revenues collected have two undesirable distorting effects. First, unless they are returned to individuals the tax collections will take money out of the economy and thus reduce aggregate demand and possibly increase unemployment. Second, some of the people paying the tax will be able to afford it only with difficulty. Thus, the tax money must be rebated: it is returned for spending in the economy, and it is returned in a pattern which takes account of people's ability to pay. The final result is that gasoline prices remain higher, thereby encouraging conservation, but neither the economy as a whole nor the people hit hardest by the tax suffer unduly.

An important distinction to make is between higher prices paid by consumers because of taxes on energy consumption and higher prices received by producers. In the latter case, the higher energy prices might result in increased production, in turn reducing our dependence on expensive foreign supplies without increasing consumer expenditures.



The rationale implicit in the President's use of prices and rebates to attain his energy goals is essentially sound, but any program which collects large new revenues and rebates them inevitably introduces new problems. The President's energy program would produce net revenues of about \$15 billion in 1980 and \$22 billion in 1985, coming mostly from the gasoline-related provisions. In 1985, about half of all revenues come from the standby gasoline tax, and about half come from the crude oil equalization tax which also is largely passed on to consumers as higher gasoline prices. These revenues would be paid by persons in proportion to their use of fuel and fuel-intensive products; they would be rebated on a per-capita basis. The process tends to increase the income of low-income households and decrease the income of high-income households, although on the average, none of these effects would be very substantial.

#### Principal Distributional Impacts

A convenient way to highlight these distributional impacts is to focus briefly on how low income families and high income families would fare under the plan. This comparison shows that the poor benefit from the plan, in terms of increased income, while the rich do not.

In 1985 under the plan, a poor family earning under \$5,600 would drive about 6,000 miles per year, spending \$263 a year for gasoline. This is about \$49 more per year than this family would





pay in 1985 if the plan were not in effect, in addition to \$52 more that it would pay in added costs for goods and services other than gasoline whose prices rise under the President's plan. Taken together, the poor family's extra expenses come to \$101, but they would be more than offset by \$195 that would be refunded under the rebate provisions of the plan. All things considered, the poor family would be \$94 better off under the plan in 1985.

On the other hand, a wealthy family with income over \$25,000 during 1985 would drive more than 26,000 miles and spend an average of \$1,154 for gasoline. This is \$215 more than the same family would spend for gasoline without the plan. In addition, a wealthy family of this sort would also spend on average of \$338 more per year for other goods and services under the plan, leading to total additional expenditures of \$553. Since the average high income family has more members than its low income counterpart, its per capita rebates under the plan would come to \$343, considerably more than what the poor family discussed earlier receives, but far short of the additional expenses that the wealthy family incurred. As a result, the wealthy family would be \$210 worse off under the plan in 1985, in contrast to the poor family that is \$94 better off. These two hypothetical families are not extreme cases. Rather, they represent the poorest 20 percent of the population, and the wealthiest 20 percent, respectively. These patterns are summarized along with those of other income groups in Table 1.



TABLE 1. FIRST-ROUND INCREASES IN EXPENDITURES PER FAMILY RESULTING FROM ENERGY PROPOSALS a/ AND REBATES PER FAMILY, ESTIMATES FOR 1980 AND 1985, IN 1977 DOLLARS

Fifths of Families Ranked by Money Income <u>b/</u>	Induced Cost Increases Relative to Present Policy			Rebate	Net Gain or Loss	
	Gasoline	Other Goods & Services	Total		1977 Dollars	As a Percent of Real Income
	<u>1980</u>					
Lowest Fifth	11	47	58	139	+ 81	+2.8
Second Fifth	23	107	130	165	+ 35	+0.6
Third Fifth	33	162	195	197	+ 2	+0.0
Fourth Fifth	40	217	257	231	- 26	-0.2
Highest Fifth	48	320	368	248	-120	-0.4
Average	31	170	201	197	- 4	-0.0
	<u>1985</u>					
Lowest Fifth	49	52	101	195	+ 94	+3.0
Second Fifth	103	113	216	229	+ 13	+0.2
Third Fifth	149	170	319	274	- 45	-0.3
Fourth Fifth	177	231	408	321	- 87	-0.4
Highest Fifth	215	338	553	343	-210	-0.6
Average	139	183	322	272	- 50	-0.3

a/ Gas guzzler taxes and rebates on new cars and home insulation provisions are not included.

b/ The boundaries of each fifth are extrapolated from the 1973-1974 Consumer Expenditure Survey. (In 1973-1974, the income ranges for each fifth were: lowest fifth-under \$3,800; second fifth-\$3,800 to \$7,456; third fifth-\$7,457 to \$11,198; fourth fifth-\$11,199 to \$17,010; highest fifth-\$17,011 and over.) Money income was assumed to grow at 6 percent a year until 1977, real income at 2 percent a year to 1980 and 1985.



The preceding findings reflect statistical averages, and it should be noted that the experience of any particular family could differ significantly from the average for the corresponding income group. In particular, because of variations in automobile ownership, differences in location, and disparities in homeownership, CBO expects that families without automobiles would gain at the expense of families with automobiles; that persons living in urban areas within reach of urban transportation would gain at the expense of persons living in suburban and rural areas, and that homeowners would gain at the expense of renters.

The number and severity of exceptions to the general patterns by income group presented earlier are largely unknown but it is possible to place some bounds on them. For example, families in the lowest fifth of the income scale are expected to receive \$195 in rebates in 1985 under the President's proposals. At the same time, each of these families is expected to pay \$52 per year in higher prices for goods and services other than gasoline, so that exclusive of gasoline costs, each low income family would experience an increase in income of \$143 under the President's program. Thus, only those families which spend more than an additional \$143 because of higher gasoline prices would be worse off. Relatively few families among the poor would spend that much more on gasoline, however; only those driving more than 18,000 miles per year by car would be worse off. As shown in Table 2, only about one low income family in 15 drives more than that. These statistics would not hold



TABLE 2. AUTOMOBILE MILES OF TRAVEL PER FAMILY BY INCOME GROUP: 1974

Miles Driven Per Year	Percentage of Families Driving this Number of Miles, Ranked by Family Income				
	Lowest Fifth	Second Fifth	Third Fifth	Fourth Fifth	Highest Fifth
No car, Zero	50.6	19.1	7.5	3.4	0.7
0 to 4,999	23.5	17.5	10.7	5.7	2.9
5,000 to 9,999	10.5	21.1	16.1	11.3	8.2
10,000 to 14,999	7.3	19.2	25.1	25.8	14.9
15,000 to 19,999	2.3	9.3	15.7	17.2	17.4
20,000 or more	<u>5.8</u>	<u>14.8</u>	<u>24.9</u>	<u>36.6</u>	<u>55.9</u>
Total	100.0	100.0	100.0	100.0	100.0
Average Miles/Year	4,043	9,539	13,907	17,357	22,532

Source: Computed from John Holmes and James Morgan, "The Impact of Rising Gasoline Prices: Some National Survey Data," Survey Research Center, The University of Michigan, 1975.





for upper income groups where a higher percentage of families would experience a net income less because of the Carter program, but they illustrate that the hardship case so commonly cited in the press--the poor family that must drive great distances--is a relatively rare one. Fewer than 7 percent of families in the lowest fifth of the income distribution have automobile use patterns which would make them worse off under the President's energy program, and these represent slightly over one percent of all of the nation's families.

If the taxes collected under the President's plan were not rebated, the distributional impacts of the program would be decidedly regressive: families in the lowest fifth of the income distribution would lose 3.2 percent of their purchasing power, compared to a corresponding loss of only half that percentage for families in the upper fifth of the income distribution.

#### Sources of Revenue in the President's Plan

Almost all of the tax revenues generated by the President's plan come from two of its provisions, the crude oil equalization tax and the standby gasoline tax. When adjusted for business deductions and exemptions, each of these provisions would produce about 11 billion dollars in revenues by 1985. The greatest price increase from the consumer's point of view would be for gasoline which would rise from 66 cents a gallon to 79 cents a gallon in 1985 under the plan. In addition to increased gasoline costs borne directly by consumers, tax revenues would also come from businesses that are heavy users of energy, such as trucking and power generation.



Consumers would ultimately bear these costs as they are passed on as increased prices for consumer goods and services. However, no other single product commonly purchased by consumers would be subject to a price increase as great as that expected for gasoline.

#### Residential Heating

The President's package contains several provisions which would help keep home heating costs from rising inordinately. The crude oil equalization tax proposal provides refunds to residential users of domestically refined fuel oil, and the cap on natural gas prices would keep the average costs of residential gas lower under the President's plan than it would be without controls. Users of electric heat would also obtain some limited relief from cost increases in the proposed revisions to block rate structures for electric utilities. While there will be some areas where current fuel prices or sources of supply lead to higher home heating costs under the President's plan, the CBO analysis indicates that most consumers will experience slight decreases in heating costs relative to those anticipated under present policy, and there does not appear to be any significant variation in heating cost savings by income group.

#### Residential Insulation

Two principal programs in the President's package would apply to insulation of homes. First, tax credits would be offered to persons who insulate. This provision would apply chiefly to fami-



lies with incomes above \$7,000 since their tax liabilities would generally be sufficient to make the tax incentive attractive. Second, grants for residential weatherproofing would be made available for low income families for whom the tax credits would have little effect. In addition, the Administration proposes tax credits for solar heating, and the maximum credit under this provision would generally apply only to relatively high income families. Since homeowners are more likely to respond to the credits than renters, and homeowners have higher incomes on average than renters, CBO expects the insulation and solar heat credits will benefit people with above-average incomes.

Data through 1975 indicate that upper income groups have made proportionately larger purchases of insulation and storm windows than have lower income groups. This finding does not suggest a clear distributional pattern in the future, however. On the one hand, it suggests that upper income families tend to buy these items and will, therefore, benefit most from the credit. On the other it indicates that the insulation needs of the well-to-do are more nearly satisfied already and that remaining insulation needs are concentrated in the homes of the less well-to-do.

All in all, the insulation and solar credits will benefit homeowners more than renters; the credit will benefit people able to make the initial cash outlay; and the credits will be limited to people who have sufficient tax liability to enable them



to claim the credits. These biases against credit participation for low-income households are roughly offset by the proposed weatherization grants to low income groups. Taken together, the credits and grants appear to offer a strategy which has no major redistributive effects.

#### Other Goods and Services

Many of the higher prices implicit in the Carter plan would be paid by industry and eventually passed along to consumers via the chain of manufacture and distribution. The effects on individual goods and services along this chain cannot be traced since the effects on each are generally small, and their influence is dispersed among thousands of products and processes. Nevertheless, their effect taken together is significant, averaging about \$180 per family in 1985 in increased costs relative to present policy. These additional costs are expected to be distributed in rough proportion to income, so that families in the poorest fifth of the population would pay only about one sixth as much more as would families in the upper fifth.

#### Short-Run Impacts on the Economy

President Carter's 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 of the level of consumer prices by 1980 or about half a percentage





point a year to the rate of inflation from 1978 through 1980. The output effect is estimated to reduce constant-dollar Gross National Product by no more than 0.7 percent by the end of 1980, thus adding 0.2 percent to the unemployment rate. These estimates do, however, assume that there will be no new investment for conversion during the next two years. The total impacts on unemployment and real growth could therefore be partially offset if additional investment is forthcoming.

#### Impact on Energy Suppliers

A final area which I would like to discuss is the effect of the President's Plan on the revenues and potential profits of energy suppliers. An objective of the Plan is to shift some future profits from currently flowing oil toward newly discovered oil, and thereby maximize incentives for discovery and production of new oil. CBO expects some additional revenue to be generated by newly discovered oil, and expects the industry to receive lower revenues for old oil under the plan. The net effect on the total revenues of the oil industry represents a very slight decrease, and the resulting effect on profits is probably less than one percent.

The natural gas industry is also expected to experience two opposing effects. The cap of \$1.75 on natural gas prices would reduce prospective revenues to the industry in the intrastate market because, without a cap, intrastate producers would be able to charge higher prices for some new supplies of gas. In the interstate



market, however, the \$1.75 price represents an increase and this tends to increase revenues. On balance, relative to a continuation of current policy, the natural gas cap is expected to decrease oil industry profits only slightly by 1980. By 1985, however, the loss of revenues could be as much as \$5.0 billion, and the associated decrease in gas industry profits promises to be substantial.

Many factors that are still uncertain could have substantial effects on natural gas and oil industry profits. Particularly significant in this respect are the definition of new oil, and the pricing of Alaskan crude oil.

The current definition of truly new oil specifies that "new" wells be at least two and one-half miles removed from, or 1,000 feet deeper than existing wells. This definition has the clear intent to minimize the amount of windfall profits on existing reserves. If this definition of new oil changes, however, and the truly new oil price is applied on wells one-half mile or even a mile from existing wells, then significant windfall profits may be possible. The definition of truly new oil is critical in determining the potential profits of the oil industry.

Windfall profits are also possible in the case of Alaskan North Slope oil. 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.



These results on the profits of the President's plan are tentative and tenuous. Leaving them out, we can say that the President's plan, taken as a whole, is of benefit, albeit a very modest one, to the lowest income Americans as compared to those with the highest incomes.



**APPENDIX**

**PROJECTIONS OF ENERGY CONSUMPTION AND PRICES**





TABLE A-1. CONSUMPTION AND PRICE OF SELECTED ENERGY SOURCES:  
CALENDAR YEARS 1977, 1980, and 1985

	1980						1985			
	1977		Present Policy		Carter Plan		Present Policy		Carter Plan	
	<u>a/</u> Quant.	<u>b/</u> Price	<u>a/</u> Quant.	<u>b/</u> Price	<u>a/</u> Quant.	<u>b/</u> Price	<u>a/</u> Quant.	<u>b/</u> Price	<u>a/</u> Quant.	<u>b/</u> Price
Gasoline (Unleaded regular, full service stations)	14.0	65.5	14.7	68.5	14.5	73.5	14.0	71.0	13.3	73.5
Diesel Fuel (Retail)	1.8	55.0	2.3	58.0	2.3	63.0	3.2	60.5	3.2	63.0
Distillates (Retail)	6.3	44.0	7.3	47.0	6.5	46.5	8.8	49.5	6.5	48.0
Residual Fuel (Retail)	5.5	29.0	7.0	29.0	8.7	29.0	13.3	29.0	9.4	29.0
Electricity (Retail residential)	5.8	133.0	7.5	140.0	7.5	140.0	10.4	150.0	9.6	150.0
Natural Gas (Retail residential)	19.4	30.0	18.7	34.5	18.7	30.0	18.9	40.5	18.9	33.0

a/ In quadrillions of BTU per year. Quantities are for all demand sectors.

b/ In cents per gallon of specific fuel. For electricity and natural gas:  
in cents per 0.14 million BTU, (equivalent to one gallon of distillate).



TABLE A-2. CONSUMPTION AND PRICE OF CRUDE OIL FROM ALTERNATIVE SOURCES:  
CALENDAR YEARS 1977, 1980, and 1985

Oil Types	1977		1980				1985			
	Quant.	Price <sup>a/</sup>	Present Policy		Carter Plan		Present Policy		Carter Plan	
			Quant.	Price <sup>a/</sup>	Quant.	Price <sup>a/</sup>	Quant.	Price <sup>a/</sup>	Quant.	Price <sup>a/</sup>
Lower Tier	4.0	5.65	3.0	5.65	3.0	14.69	1.9	5.65	1.9	14.69
Upper Tier	3.0	12.05	2.9	13.72	2.9	14.69	2.0	14.69	2.0	14.69
Newly Discov.	0.1	12.05	0.7	13.72	0.9	14.69	2.4	14.69	2.5	14.69
Stripper	1.0	14.69	1.1	14.69	1.1	14.69	1.1	14.69	1.1	14.69
Alaskan	0.2	12.05	1.4	14.69	1.4	14.69	1.8	14.69	1.8	14.69
Pet Reserve	--	12.05	0.1	13.72	0.1	14.69	0.2	14.69	0.2	14.69
Total <sup>b/</sup> Crude	8.3	9.28	9.2	11.38	9.4	14.69	9.4	12.86	9.5	14.69

<sup>a/</sup> Refinery acquisition costs.

<sup>b/</sup> Does not include national gas liquids.

