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ENERGY PROGRAM

10

**CRUDE OIL EQUALIZATION TAX
AND
REBATE**

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 pamphlet is the tenth in a series prepared for use by the Committee on Ways and Means during its consideration of the tax proposals in the Administration's energy program.

This pamphlet deals with the proposed crude oil equalization tax and the rebate of that tax to consumers.

This pamphlet is divided into several subparts. A background section outlines certain facts concerning the energy situation in the area under consideration. A section on present law follows. Next there is a discussion of the Administration proposal followed by the energy-related legislative proposals considered in the 93d and 94th Congresses. Alternative proposals offered by the members of the Ways and Means Committee are set forth in the next section. Finally, there is a discussion of possible areas for committee consideration.

I BACKGROUND

Oil supply and demand

Table 1 shows U.S. petroleum supply, demand and imports between 1955 and 1976. Petroleum accounted for 47 percent of overall U.S. energy consumption in 1976, and for 95 percent of the energy used in transportation. It is, therefore, the most significant single energy source in the United States.

Petroleum consumption rose steadily from 8.49 million barrels per day (mbd) in 1955 to 17.31 mbd in 1973. It fell to 16.29 mbd by 1975, but in 1976 it regained the 1973 peak. U.S. production of petroleum also increased steadily until 1970, but it has declined steadily since then. Until 1972 the U.S. oil industry had some spare capacity, and until 1965 the United States was self-sufficient in oil in the sense that this spare capacity exceeded the level of oil imports.

In 1974, the transportation sector consumed 54.3 percent of U.S. oil, a share that has not changed significantly in the past two decades. The household and commercial sectors consumed 17.4 percent of the oil, and the industrial sector consumed 18.3 percent of it. Nine percent of the oil was used for electrical generation, a percentage that has risen sharply since 1965 when environmental policies began to encourage use of oil and gas for electrical generation in place of coal. Curtailments of natural gas service in recent years have also forced some industries and utilities to shift from gas to oil.

TABLE 1.—U.S. oil demand, supply and imports, 1955-76
[In millions of barrels per day]

Year	U.S. demand for petroleum	U.S. production of crude oil	U.S. production of natural gas liquids	U.S. spare capacity for crude oil	U.S. oil imports
1955-----	8.49	6.81	.77	1.78	1.25
1956-----	8.82	7.15	.80	2.08	1.44
1957-----	8.86	7.17	.81	2.78	1.57
1958-----	9.15	6.71	.81	2.60	1.70
1959-----	9.49	7.05	.88	2.67	1.78
1960-----	9.81	7.04	.93	2.71	1.82
1961-----	9.99	7.18	.99	2.75	1.92
1962-----	10.41	7.33	1.02	2.63	2.08
1963-----	10.75	7.54	1.10	2.67	2.12
1964-----	11.03	7.61	1.16	2.73	2.26
1965-----	11.52	7.80	1.21	2.45	2.47
1966-----	12.10	8.30	1.28	2.24	2.57
1967-----	12.57	8.81	1.41	2.12	2.54
1968-----	13.40	9.10	1.50	1.90	2.84
1969-----	14.15	9.24	1.59	1.38	3.17
1970-----	14.71	9.64	1.66	1.33	3.42
1971-----	15.23	9.46	1.69	.69	3.93
1972-----	16.37	9.44	1.74	.20	4.74
1973-----	17.30	9.21	1.74	----	6.26
1974-----	16.65	8.77	1.69	----	6.11
1975-----	16.32	8.38	1.63	----	6.06
1976-----	17.44	8.12	1.60	----	7.29

Source: Independent Petroleum Association of America (1955-71) and *Monthly Energy Review* (1972-76).

Table 2 shows the consumption of petroleum products by region for 1973. The New England and the Middle Atlantic States consume a disproportionately large share of the fuel oil, but a relatively small share of the gasoline.

TABLE 2.—Consumption of petroleum products by region, 1973
(percent of total)

Region ¹	1972		Consumption in 1973 of		
	Popu- lation	Personal income	Distillate fuel oil	Residual fuel oil	Gasoline
New England.....	5.8	6.2	10.8	16.0	4.9
Middle Atlantic.....	18.1	20.1	23.3	29.9	13.6
East north-central.....	19.6	20.7	18.3	6.8	19.2
West north-central.....	8.0	7.6	7.9	1.5	9.4
South Atlantic.....	15.3	14.3	12.3	22.9	16.4
East south-central.....	6.3	4.9	4.7	1.2	6.8
West south-central.....	9.6	8.2	8.9	5.7	11.3
Mountain.....	4.3	3.7	5.4	1.5	5.4
Pacific.....	13.0	14.5	8.4	14.6	12.9
Total.....	100.0	100.0	100.0	100.0	100.0

¹ The regions are: New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut. Middle Atlantic—New York, New Jersey, Pennsylvania. East north-central—Ohio, Indiana, Illinois, Michigan, Wisconsin. West north-central—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas. South Atlantic—Delaware, Maryland, District of Columbia, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida. East south-central—Kentucky, Tennessee, Alabama, Mississippi. West south-central—Arkansas, Louisiana, Oklahoma, Texas. Mountain—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada. Pacific—Washington, Oregon, California, Alaska, Hawaii.

Source: U.S. Bureau of Mines and U.S. Department of Transportation.

The result of the divergent trends in oil supply and demand has been a steady increase in oil imports. These reached 7.29 mbd in 1976, or 42 percent of U.S. oil consumption. Without any change in policies there is likely to be a significant increase in our dependence on imported oil in future years. The Federal Energy Administration estimates that, under current energy policies, oil consumption will rise to 21.1 mbd in 1980, 22.8 mbd in 1985 and 24.9 mbd in 1990. This level of consumption would imply oil imports of 10.2 mbd in 1980, (48 percent of consumption), 11.5 mbd in 1985 (50 percent of consumption) and 14.5 mbd in 1990 (58 percent of consumption). These FEA estimates are consistent with independent private forecasts. In any such forecast, however, there is a range of uncertainty equal to 2-3 mbd, so that the actual situation could be slightly better or even worse than the FEA forecasts imply.

The United States consumes much more oil per dollar of GNP than other industrial nations. This fact is shown in table 3. In 1975, the United States consumed 3.92 barrels of oil per thousand dollars of GNP, compared to 2.00 for Germany, 2.07 for France and 3.39 for Italy and Canada.

TABLE 3.—Oil consumption per dollar of GNP in various countries, 1975

Country	Petroleum consumption (millions of barrels per year)	Gross national product (billions)	Petroleum consumption per dollar of GNP (barrels per thousand dollars of GNP)
United States.....	5,946	\$1,516.3	3.92
Japan.....	1,355	491.0	2.76
Germany.....	846	423.0	2.00
France.....	701	337.9	2.07
United Kingdom.....	589	228.8	2.57
Italy.....	582	171.6	3.39
Canada.....	536	158.3	3.39

Sources: *Monthly Energy Review* and *Statistical Abstract of the United States 1976*.

Oil production

U.S. crude oil production peaked in 1970 and has declined steadily since then. This fact is shown in table 4, which presents various statistics relating to oil production. In 1976, U.S. production of crude petroleum (including crude oil and natural gas liquids) was 14 percent below the 1970 peak.

Oil is not a renewable resource; the world contains only a finite amount of it. Any existing petroleum deposit will be depleted over time as the petroleum is pumped out. Unless this depletion of existing deposits is offset by discovery of new reserves or by use of secondary and tertiary recovery techniques, oil production must decline. However, as the more accessible deposits have been discovered, drillers must drill deeper or in less accessible areas (such as offshore or in Alaska), so that the cost of finding new reserves must increase over time.

TABLE 4.—U.S. oil production, 1960–76

Year	Production of crude petroleum (million barrels) ¹	Number of wells drilled (thousands)	Footage drilled (millions of feet)	Percent dry holes	Proved reserves (million barrels) ²
1960.....	2,915	44.1	186.4	39.8	31,613
1965.....	3,291	39.6	178.7	40.3	31,352
1970.....	4,123	27.2	136.9	39.7	39,000
1972.....	4,093	26.4	135.5	40.1	36,339
1973.....	3,995	26.2	136.7	38.5	35,300
1974.....	3,819	31.5	150.9	37.2	34,250
1975.....	3,653	37.2	174.4	35.6	32,682
1976.....	3,558	39.8	181.9	34.4	30,990

¹ Including natural gas liquids.

² Excludes natural gas liquids.

Sources: *Statistical Abstract of the United States 1976*, *Monthly Energy Review*, American Petroleum Institute.

In the United States, this natural trend towards declining production was augmented in the 1960's and early 1970's by the effect on U.S. oil prices of the availability of inexpensive oil imports. Between 1950 and 1972, U.S. crude oil prices grew by only 35 percent. During this same period the consumer price index rose by 74 percent. The combination of the increased difficulty of finding new oil and the decline in the relative price of oil led to a sharp decline in drilling activity. As shown in table 4, the number of wells drilled declined from 44,000 in 1960 to 26,000 in 1973, and the footage drilled fell from 186 million feet to 137 million feet. Except for the sharp increase in proved reserves in 1970 resulting from the Alaskan discovery, reserves have declined steadily since the mid-1960's.

There has been a significant increase in drilling activity since 1973 as a result of the sharp increase in oil prices. Footage drilled increased by 34 percent between 1972 and 1976, and the number of wells drilled rose by 51 percent. However, the additional drilling has not been sufficient to offset the depletion of existing oil reserves, so that proved reserves of crude oil have continued to decline. Indeed, proved oil reserves are now below their level prior to the Alaskan discovery.

No one knows how much oil and gas remains to be discovered in the United States or what will be the cost of finding those reserves. Table 5 presents a careful estimate of U.S. oil and gas resources made by the U.S. Geological Survey.

For crude oil, the Geological Survey identified several categories of reserves, based on the degree of certainty about their size. "Proved reserves" are those which can be economically extracted with existing technology. These were estimated to be 34.3 billion barrels, as of the end of 1974, or about 11 years production at the 1974 rate of 3.2 billion barrels per year. (By the end of 1976, proved reserves of crude oil had declined to 30.9 billion barrels.) How much oil can be economically extracted from a particular deposit depends, in part, on the price of the oil, and the estimates of proved reserves in table 5 do not take into account the price increases after 1973. Therefore, they are probably understated. Proved reserves also do not include "indicated reserves," which are those economically recoverable with known enhanced recovery techniques. These amount to slightly more than a year's production. Higher oil prices would also significantly expand the amount of indicated reserves; however, much of the additional oil that would be produced with enhanced recovery is classified as "old oil" and hence is now subject to price controls. The existence of these price controls, and the expectation that they may be removed sometime in the future, has probably delayed some enhanced recovery investments. It is not clear how large indicated reserves would be at the high prices now prevailing for new oil.

¹ Secondary recovery involves injecting water into an oil field to force the oil into a position where it can be pumped out of producing oil wells. Tertiary recovery involves injecting gas and chemicals, which also may liquefy extremely viscous oil to make it easier to pump out.

TABLE 5.—Estimated U.S. reserves of oil and gas, Dec. 31, 1974

	Cumulative production to Dec. 31, 1974	Proved reserves ¹	"Indicated reserves" ²	"Inferred reserves" ³	Estimated undis- covered recover- able resources ⁴
Crude oil (billions of barrels):					
Lower 48 onshore.....	99.9	21.1	4.3	14.3	29-64 (44)
Alaska onshore.....	.2	9.9	0.0	6.1	6-19 (12)
Lower 48 offshore.....	5.6	3.1	.3	2.6	5-18 (11)
Alaska offshore.....	.5	.2	0.0	.1	3-31 (15)
Total.....	106.1	34.3	4.6	32.1	50-127 (82)
Natural gas liquids (billions of barrels).....	15.7	6.4	(⁵)	6.0	11-22 (16)
Natural gas (trillions of cubic feet):					
Lower 48 onshore.....	446.4	169.5	(⁵)	119.4	246-453 (345)
Alaska onshore.....	.5	31.7	(⁵)	14.7	16-57 (32)
Lower 48 offshore.....	33.6	35.8	(⁵)	67.4	26-111 (73)
Alaska offshore.....	.4	.1	(⁵)	.1	8-80 (44)
Total.....	480.8	237.1	(⁵)	201.6	322-655 (484)

¹ Proved reserves are those which can be economically extracted with existing technology.

² Indicated reserves are those which are economically recoverable with known methods of enhanced recovery.

³ Inferred reserves are estimated additional reserves resulting from extensions of existing fields, revision of estimates, and so forth.

⁴ There is only an estimated 5-percent probability that undiscovered recoverable resources are below the lower end of the range, and a 5-percent probability that they are above its upper end. The figure in parentheses is the statistical mean.

⁵ Not applicable.

Note: These estimates do not take into account oil and gas price increases after 1973.

Source: Department of the Interior, "Geological Estimates of Undiscovered Recoverable Oil and Gas Resources in the United States," 1975.

"Inferred reserves" are less certain than either proved or indicated reserves but are very likely to exist. These are the reserves which will very probably be added as a result of extension of existing oil fields, revisions of estimates (which are usually upward revisions) and other similar reasons. These are estimated to be 23.1 billion barrels. Thus, according to the Geological Survey, the total known U.S. oil reserves were about 62 billion barrels at the end of 1974, or about 19 years production.

The Geological Survey estimates that proved and indicated reserves of natural gas liquids (used to make propane and other close substitutes for oil) were 12.4 billion barrels, or 20 years' production at the 1974 rate of 616 million barrels.

The main uncertainty concerns oil and gas resources which have not yet been discovered. The Geological Survey has made estimates of these undiscovered resources, which are also shown in table 5. Because of the uncertainty involved, these estimates are expressed as a probability distribution. The Survey estimates that there is only a 5-percent probability that undiscovered recoverable resources of crude oil are below 50 billion barrels and a 5-percent probability that they are above 127 billion barrels. The estimate of the mean (or expected value) of the probability distribution is 82 billion barrels.² If we ultimately discover 82 billion more barrels of oil, then total reserves of crude oil will turn out to be 144 billion barrels, or 45 years of 1974 production. This would mean that if the United States produces oil at 1974 rates, it would run out of crude oil by about the year 2020. However, there is a 5-percent chance that existing reserves and undiscovered resources total only 112 billion barrels, in which case the United States would run out of crude oil at current rates of production by 2010.

The Survey estimates are similar for natural gas liquids. At their mean value, reserves and undiscovered resources would be 46 years of 1974 production.

Currently, 62 percent of proved oil reserves are onshore in the lower 48 States and 29 percent are onshore in Alaska. Only 10 percent of proved reserves are offshore. The Survey estimates, however, that 32 percent of undiscovered recoverable crude oil resources are offshore, and that more than half of this offshore oil lies off Alaska. Slightly more than half of estimated undiscovered recoverable oil resources are onshore in the lower 48 States. Since oil and gas exploration is more costly offshore than it is onshore, the costs of finding new oil will be much higher in the future than it has been in the past.

Oil production also involves refining the crude oil after it is extracted. The United States has the capacity to refine about 15.6 million barrels of oil per day (mbd), compared to 1976 consumption of 17.3 mbd. Thus, the United States is dependent on foreign refineries for at least 10 percent of petroleum products. There is, however, a large surplus of refining capacity worldwide. At the end of 1976, worldwide refining capacity was 72.2 mbd, while production of crude oil was 56.8 mbd.

² The mean of a probability distribution for a particular random variable is the sum of the possible values for that variable weighted by the probability associated with that value.

Oil prices

Relative to other prices, the price of crude oil declined steadily through the 1950's and 1960's. Since 1972, however, the price of imported crude oil has quadrupled and the price of crude oil produced in the United States has approximately doubled relative to consumer prices generally.

Currently, first tier crude oil (old oil), which is about 51 percent of domestic production, is controlled at an average wellhead price of \$5.15 per barrel. Second tier crude oil (new oil), which is about 37 percent of domestic production, is controlled at an average wellhead price of \$11.03 per barrel. (This average controlled price fluctuates slightly from month to month.) Stripper oil, which is 13 percent of domestic production, is uncontrolled and is currently selling at a price of approximately \$13.31 per barrel.³

The average price at the wellhead for all domestically produced crude oil is about \$8.35 per barrel. However, the average cost to the refiner, which includes transportation and certain other costs, averages \$9.27. The refiner acquisition cost of imported oil averages \$14.55 per barrel. If the price of domestic oil were increased to the world price, either through decontrol of oil prices or the crude oil equalization tax proposed by the Administration, this would involve a price increase for domestic production of \$5.28 per barrel at current prices. Since approximately 58 percent of U.S. consumption of oil is from domestic production, increasing the cost of domestic production to the world price of oil would increase the average cost of oil in the U.S. by approximately \$3.06 per barrel, or about 7.3 cents per gallon.

Because the price of U.S. crude oil is likely to rise faster than the world price in the next several years even without any changes in present law or policy, this 7.3-cent-per-gallon estimate of the effects of bringing U.S. oil up to the world price probably overstates the effect of the Administration proposal on prices, particularly since that proposal would not be fully phased in until 1980; an estimated price increase of 4.6 cents per gallon by 1980 would probably be more accurate.

As is discussed below, however, many observers believe that the consumer does not now receive the full benefit from the price controls on U.S.-produced crude oil, in which case the full increase in refiner acquisition costs would not be passed through to consumers. The Administration estimates that refiners or other businesses would absorb one-third of the proposed increase in costs, in which case the increase in consumer prices would be 4.9 cents per gallon at present prices. By 1980, under the assumption that only two-thirds of the tax is passed through, the additional increased cost resulting from the Administration proposal would probably be only about 3 cents per gallon (as compared with increased costs which would have occurred even if the proposal were not to be adopted).

³ These figures are actually for the month of March 1977, which is the most recent month for which accurate data are available. However, it is likely that the actual April prices will not vary from the figures set forth in the text by more than a few cents per barrel.

II. PRESENT LAW

Under present law, the price of domestically produced crude oil is regulated by the FEA in accordance with the "Emergency Petroleum Allocation Act of 1973," as amended. Under these rules, all domestic oil production other than stripper oil (oil produced from properties where the average daily production per well is 10 barrels or less) is subject to price controls. The exact nature of the price controls is determined administratively, but there is a legislatively mandated limit on the average price of the nonstripper oil. Currently, the average price limit is \$8.57 per barrel. This is subject to an inflation adjustment which may not exceed 10 percent a year. Price increases in excess of this authority may be recommended by the FEA, but these increases are subject to a veto by either House of Congress within 15 legislative days. Under present law, these controls are mandatory through May 1979, and the President has discretionary authority to continue controls until September 1981.

Under the existing regulations, "old oil" (also known as "first tier oil" or "lower tier oil") is the amount of oil produced on a property up to either 1972 production or 1975 production, whichever is less, adjusted for part of the natural decline in production that occurs in any oil field. "New oil" (also known as "second tier oil" or "upper tier oil") is oil produced on a property in excess of this amount. Old oil is controlled at a price averaging about \$5.15 per barrel, and new oil is controlled at a price averaging about \$11.03 a barrel. (The price of any particular barrel of oil may vary by several dollars from these averages depending on the quality of the oil and its location.) The price of stripper oil averages about \$13.31 per barrel.

Under the present law, there is an entitlements program which is designed generally to equalize the cost of crude oil to refineries in the United States, regardless of their actual mix of price-controlled and uncontrolled oil. Those U.S. refineries using more than the national average percentages of price-controlled crude oil must buy entitlements from refineries using less than the national average. This purchase and sale of entitlements among refiners offsets the advantages that would otherwise result for the refiners who have access to a disproportionate amount of price-controlled crude oil. The FEA sets the price of entitlements each month based on price differences between old, new and stripper oil. Small refiners receive advantages under the entitlements program. (The "small refiner bias" is now about 33 cents per barrel for a refiner whose refinery runs are 50,000 barrels per day.)

There are also controls on the price of certain petroleum products, including gasoline, as well as controls on the marketing and distribution of these products. These product controls are designed to ensure that the lower crude oil prices resulting from price controls are passed through to consumers, but the Administration believes that, despite the product price controls, refiners and other businesses reap about one-third of the benefit of crude oil price controls and that this amount is not being passed through to consumers.

III. ADMINISTRATION PROPOSAL

Oil taxes

Under the Administration proposal, domestic oil production would be subject to a "crude oil equalization tax" which would be imposed in three stages. The tax would be imposed upon the delivery of domestic crude oil to the refinery or other place of first use, and the tax would be paid by the refiner.¹

During the first stage (calendar year 1978), a tax of \$3.50 per barrel would be imposed on all "first tier" crude oil. During the second stage (calendar year 1979), the tax would still be limited to first tier crude oil and would equal the average monthly difference in refiner acquisition cost per barrel between all first tier oil and all second tier crude oil produced in the United States. At present prices the second stage tax rate would be about \$6.30 per barrel, but in 1979 it is expected to be \$7.70 per barrel.

During the third stage (1980 and thereafter), the tax would apply to both first and second tier oil and would equal the difference between the average refiner acquisition cost of each class of oil and the then current refiner acquisition cost of imported oil (exclusive of any tariffs or import fees). At current prices, the third stage would involve a tax increase of about \$2 per barrel over the second stage, but in 1980 the rate is expected to be about \$3 more than the second stage.

Under the Administration proposal (as discussed below under "Oil Pricing") there will be an additional category or tier of domestic oil production, known as "new new oil." The price of new new oil will be permitted to rise, over a 36-month period, from the current second tier control level to the April 1977 world price of oil, adjusted for inflation. (The world price of oil now averages about \$13.30 per barrel.) Thereafter, the price would rise only to the extent of an inflation adjustment. If the world price of oil rises faster than the inflation adjustment, this "new new oil" would be subject to the crude oil equalization tax to the extent of the difference between the world price of oil and the controlled price of new new oil.

Under the Administration proposal, the President or his delegate would have the authority to specify additional classes of crude oil in the future. Thus, there would be discretion to provide a higher controlled price (and a lower equalization tax) for tertiary recovery, or to create additional categories of new oil or "new new oil" at some future date. Also, the President would be given authority to suspend increases in the tax where he found that the world price of oil was rising at a rate substantially in excess of the general inflation rate.

Once the tax is fully in effect, the entitlements program would be terminated. However, if world oil prices rise at a faster rate than the overall inflation rate and the President suspends increases in the tax, the program would be reinstated.

¹ Under the Administration proposal, domestic oil which is exported would also be subject to tax, and the person owning the oil at the time of export would be liable for the tax.

Oil rebates

A special rebate would be provided in the case of domestically refined home heating oil.² This rebate would be payable to retailers of domestically refined home heating oil who could demonstrate that the amount of the rebate had been fully passed through to consumers in the form of lower prices. The amount of the rebate would be determined by the FEA by estimating the average tax per gallon for all domestically refined crude oil, and each retailer would determine his rebate by multiplying that amount by the number of gallons of domestically refined heating oil which he sold. The distributor would be required to show the amount of the rebate in the bills he submits to his customers. Rebates to the distributor would be made on a quarterly basis if the distributor were entitled to \$1,000 or more of rebates; otherwise the rebates would be made on an annual basis.

(The staff understands that the Administration did not intend to limit its special rebate for home heating oil to domestically refined oil, and that the limitation in the bill is a drafting error.)

All other net revenues from the tax (after taking account of business tax deductions attributable to the tax and administrative costs of the rebate) would be refunded to every individual on a per capita basis. The determination of the per capita amount is to be based on estimates made by the Secretary of the Treasury of the crude oil equalization taxes to be collected from the imposition of the tax in the following year, reduced by the estimated reduction in income tax collections arising from business deductions of the tax, the rebate for heating oil, and administrative costs connected with the rebate program. It is estimated that this rebate would be about \$16 per person in 1978, \$32 per person in 1979, and \$50 per person in 1980, when the crude oil tax would be fully phased in.

Under the Administration proposal, the reduction in business taxes would consist largely of a reduction in the income taxes paid by refiners (and other businesses in the oil distribution system). The Administration assumes that other businesses would pass the increased cost of petroleum along to their customers in the form of higher prices, thus leaving the businesses with approximately the same after-tax revenue which they have under present law. However, the Administration believes that refiners are receiving benefits from the existing price controls on crude oil which will be lost after the enactment of the crude oil equalization tax. The Administration estimates that refiners and other businesses are now retaining about one-third of the savings from price controls as profits, and are only passing the other two-thirds of the savings along to their customers in the form of lower prices. Assuming that businesses are in the 45 percent bracket and that their profits would be reduced by an amount equal to one-third of the crude oil equalization tax, the businesses' federal income taxes would be reduced by an amount equal to about 15 percent of the crude oil equalization tax.

Generally, the rebate of the crude oil equalization tax would take the form of a nonrefundable income tax credit, and the amount of this credit would be reflected in the income tax withholding tables.

² For purposes of the rebate, it would not matter whether the origin of the crude oil was foreign or domestic. However, no rebate would be available if the oil was refined abroad.

(A nonrefundable credit is one which may not exceed tax liability.) The credit could exceed tax liability for individuals eligible for the earned income credit and for other individuals who have earned income and dependent children. The credit will equal the amount of the rebate times the number of personal exemptions claimed by the taxpayer for himself, his spouse and his dependents, not including the personal exemptions which are allowed a taxpayer for old age and blindness.

Persons entitled to social security, supplemental security income (SSI) or railroad retirement benefits having limited taxable income (so that they were unable to benefit from an income tax credit) would receive per capita energy payments in September of each year, beginning in 1979. Similar payments would be made by States to families receiving aid to families with dependent children (AFDC) with full Federal reimbursement of the costs involved. States would also administer a backup program to make energy payments to individuals not receiving reimbursement under any of the other prescribed reimbursement systems.

The per capita energy payment would be disregarded in connection with the administration of all Federal or Federally assisted financial aid programs. The rebate would not be considered as income or as a reduction in Federal income taxes for purposes of State law.³

Oil pricing

Under the Administration proposal, the prices of old oil and what is now new oil would continue to be controlled at current price levels, adjusted only for inflation. These price controls would be permanent as contrasted with the existing price controls which are scheduled to expire in May 1979. There would be a higher price for "new new oil," which is oil discovered after April 20, 1977, in a well that is either more than 2½ miles from an existing onshore well or more than a thousand feet deeper than any well within the 2½-mile radius, as well as oil from an offshore lease entered into after April 20, 1977.

The price of new new oil would be allowed to rise ratably over a 36 month period from the current controlled price for second tier crude oil (about \$11.03 per barrel) to the April 1977 price of imported oil, adjusted for inflation. Thereafter, this price would be adjusted upward for inflation.

Under present law these upward price adjustments for new new oil could be implemented through regulations as long as the Administration continues to meet its legislatively imposed average controlled price for all domestically produced nonstripper crude oil, which is currently \$8.57 per barrel but which can increase at a rate of 10 percent per year. Otherwise, the Administration could recommend the increased price levels to the Congress, and the increase would take effect if neither House exercised its right to veto the proposal within 15 legislative days.

Under the Administration proposal (as under present law) stripper wells would remain free of price controls. Alaskan oil from existing fields would be treated as new oil at the wellhead, and "new new" Alaskan oil would be entitled to receive the 1977 world price. In the case of Alaskan oil, however, price controls are not the only restraint on

³ If the standby gasoline tax goes into effect, rebates of the gasoline tax and the crude oil equalization tax would be combined into one program.

the price which may be charged at the wellhead. Current transportation costs for Alaskan oil average six dollars per barrel, and because the market will not permit refiner acquisition cost of Alaskan oil to exceed that of imported oil, the actual wellhead price for Alaskan oil will be less than the wellhead price of new oil in the lower 48 States.

Under the Administration proposal, shale oil would not be subject to price controls and would receive the current world price as in effect from time to time.

Effective date

The crude oil equalization tax would apply to deliveries of crude oil to refineries after December 31, 1977.

Revenue effect

Table 6 shows the revenue effects of the proposed crude oil equalization tax. The gross collections rise from \$2.8 billion in fiscal year 1978 to a peak of \$14.3 billion in fiscal year 1981. The table also shows the effects of the home heating oil rebate, the reduction for the revenue loss resulting from lower income of refiners and the amounts available for per capita tax credits and special payments. These estimates assume that the world oil price rises at the overall rate of inflation, which is assumed to be 7 percent. Assuming a lower inflation rate would reduce the revenue estimates.

Energy savings

The administration estimates that this tax will reduce demand for petroleum by 0.1 to 0.2 million barrels per day in 1980, and by the same amount in 1985. Also, it is expected to reduce oil demand by another 0.1 to 0.2 million barrels per day in 1985 because it will encourage substitution of coal for oil in synthetic gas manufacturing.

TABLE 6.—Crude oil equalization tax: relationship of gross excise tax to energy credits and payments

[In millions of dollars]

	Fiscal year—							
	1978	1979	1980	1981	1982	1983	1984	1985
Gross crude oil equalization tax collections.....	2,793	7,329	12,360	14,310	14,150	13,895	13,630	13,414
Refund for residential heating oil.....	-47	-361	-689	-1,004	-998	-982	-962	-945
Reduced refiners' income tax ¹	-302	-979	-1,715	-2,148	-2,129	-2,091	-2,052	-2,016
Estimated per capita energy tax.....	-1,952	-4,786	-7,962	-8,926	-8,820	-8,658	-8,549	-8,362
Net effect on receipts.....	488	1,197	1,990	2,231	2,205	2,164	2,123	2,091
Amount available for energy special payments to SS, SSI, etc. (outlays).....	488	1,197	1,990	2,231	2,205	2,164	2,123	2,091

¹ Results from less than full pass-through of tax to prices.

Note: The prices of crude oil are assumed to increase 7 percent annually during the forecast period.

IV. ACTION IN PRIOR CONGRESSES

Since 1974, both tax writing committees have agreed to tax bills including a windfall profits tax on crude oil, natural gas liquids, or both.

In past Congresses, windfall profits tax proposals have assumed that the price of some or all of domestically produced crude oil would be decontrolled, and that a tax would be imposed on the producer equal to a substantial part of the difference between what had been the controlled price of oil and the world price.

Essentially a windfall profits tax on oil is an excise tax designed to tax away all or part of the difference between the controlled price of oil and the high world price of oil. The cost of oil to the consumer would rise in response to a decontrol of oil prices, but the "windfall" to the producer because of this increase would be reduced or eliminated by the windfall tax. However, the combination of maintaining price controls on domestic production and imposing an excise tax on that domestic production making its cost equivalent to imported oil essentially achieves the same effect (as under the Administration proposal, discussed above).

In 1974, the Ways and Means Committee reported H.R. 17488, which included a windfall profits tax on crude oil. That bill was not taken up on the House floor.

At the time of the Committee's action, about two-thirds of United States' oil production was subject to price controls at prices averaging about \$5.25 per barrel. The remaining production was uncontrolled and was selling at much higher prices. The windfall profits tax reported by the Committee was an excise tax in which the tax rate for a particular barrel of oil depended on the difference between the selling price of that barrel, over a base price. The base price was the selling price of oil of similar grade, type and location determined as of May 1973, before the price of oil was artificially affected by the OPEC cartel, plus 50 cents. This base price averaged \$4.75 per barrel. The tax rate ranged from 10 percent of the first 25 cents by which the selling price exceeded the base price to 85 percent of the excess over \$2.00. Thus, there was a very modest tax on price controlled oil but a sizable tax on uncontrolled oil.

The tax phased out over a 5-year period. Also, it contained a "plowback" provision under which producers could receive a credit against the windfall profits tax for 100 percent of qualifying investment above a threshold level. Except for the first year of the tax, the plowback credit could have completely offset all windfall profits tax liability.

In 1975, during the course of the markup on H.R. 6860, the Ways and Means Committee considered the possibility of including a windfall profits tax on oil and/or natural gas. This tax would have been contingent on price decontrol. However, the windfall profits tax was not included as part of the reported bill.

In August 1975, the Finance Committee agreed to a deregulation profits tax, which would have applied to oil and natural gas liquids and was to have been added as a Finance Committee floor amendment to a tariff bill. This deregulation tax was conditioned on price decontrol, and the measure died when proposals then pending for rapid or immediate decontrol of energy prices failed to win approval.

The Finance Committee's windfall profits tax was similar in many respects to the 1974 Ways and Means Committee's tax. The Finance Committee tax would have imposed a 90 percent windfall profits tax on old oil to the extent that the price of that oil exceeded the controlled price (\$5.25 per barrel on the average), and on new oil to the extent that the sales price exceeded \$11.50 per barrel. A tax would have been imposed on natural gas liquids to the extent that the price exceeded the regulated price in effect on June 30, 1975. The tax was phased out over a 5½-year period. There was a plowback credit, but it was limited to 25 percent of the tax otherwise due. The net proceeds from the tax were to be rebated on a per capita basis to all individuals who were 18 years of age or older.

V. ALTERNATIVE PROPOSALS

A. Oil taxes

Members' proposals

Mr. Vanik

The oil equalization tax would be eliminated on home heating fuel.

Mr. Waggonner

The crude oil equalization tax would be deleted, and replaced with an excise tax imposed at the wellhead on old oil. The excise tax would equal the difference between the actual sales price and the producer's price controlled base price. The tax would be phased out at a rate of 2 percent per month, with the base price for purposes of the tax adjusted to reflect inflation in the cost of petroleum exploration and development since 1973. The tax would be adjusted for State or local severance or ad valorem taxes and would be limited to 75 percent of net income from any property. A plowback credit would be provided for up to 50 percent of the tax for new exploration and development expenditures.

If a crude oil equalization tax is provided, an exception for small refiners would be included comparable to the present "bias" established under the entitlements program.

Mr. Jones

An exception (or credit) would be provided from the crude oil equalization tax for petroleum and petroleum supplies used by the producer to extract additional crude oil.

Mr. Conable

The crude oil equalization tax and rebates would be eliminated and replaced with a windfall profits tax and plowback on oil subject to a 25-month price control phaseout. The windfall tax would be 90 percent of the difference between the sales price and the former controlled price of each barrel of oil. The tax would be phased out over 50 months. The plowback would permit a producer to receive a reduction in tax for investment in new oil exploration and development in excess of \$3 per barrel of oil produced.

Mr. Archer

The crude oil equalization tax would be deleted or, alternatively, a credit against the tax would be provided for electric utilities which are practically precluded from switching from oil as a boiler fuel.

Mr. Schulze

A windfall profits tax would be established in lieu of the crude oil equalization tax with a plowback credit for expenditures relating to synthetic fuels, solar energy development, hydroelectric construction and geothermal energy development.

Mr. Gradison

The crude oil equalization tax and rebates would be eliminated and replaced (after price decontrol with standby control authority) with an excise tax equal to 80 percent to 90 percent of the difference between the former controlled price and the market price. A credit against the tax would be permitted for energy production investments (specifically excluding investments in oil, gas, nuclear fission and coal production) for exploration, development, exploration, drilling, production, transportation and distribution of energy from solar power, coal liquefaction and gasification, shale oil or gas, and agricultural products and urban waste. The remaining excise tax revenues would be rebated to taxpayers generally.

Other proposals

In cases where the first purchaser of the oil is someone other than the refiner or first user, the tax could be imposed on the first purchaser of the oil.

Under the Administration proposal, there is a "ratcheting effect" and a technical problem caused by changes in price differentials for different types of oil (discussed below under "Changing quality differentials"). These problems arise because the Administration proposal is based on the average difference between the controlled price of oil in a particular tier and the world price of imports.

One approach to avoid these problems would be to change the structure of the tax so that it was based specifically on the difference between the controlled price of oil of a specific grade, type and location (i.e., oil from a particular field) and the uncontrolled price of oil of the same type, grade and location. In cases where stripper oil was produced in the same location, the uncontrolled price would be the stripper oil price; in other cases, it might be necessary for the FEA to impute an uncontrolled price.

An alternative approach would be to make certain technical adjustments to the Administration's proposal. To compensate producers for price declines for particular types of crude oil that may result from the wellhead tax, it could be provided that when the price of lower tier oil on a particular property has fallen below its May 1977 level, there could be a refund of the wellhead tax equal to some percentage (such as 50 percent) of the difference between the May 1977 price of the oil and the actual selling price.

To eliminate the "ratcheting upward" of the tax rate, the formula for computing the tax could be revised. Under the Administration's proposal, for each tier of oil the wellhead tax rate equals the difference between the national average refiner acquisition cost of imported oil and the national average refiner acquisition cost of that tier of domestic oil. Instead of the actual acquisition cost average, the tax rate for a given tier of oil could be based on an imputed national average refiner acquisition cost of that tier. For properties in which the price of oil has declined below its May 1977 level, this imputed average would use the May 1977 price instead of the actual price to prevent any lowering of the overall tax rate.

The wellhead tax could be extended to propane and other natural gas liquids subject to price controls. These would be separate categories of petroleum with their own wellhead tax rates.

Presidential authority to suspend or postpone increases in the tax could be made subject to Congressional veto of either House, or Congress could provide limitations and instructions for the use of this power.

B. Oil Rebates

Members' proposals

Mr. Vanik

All of the tax revenues would be paid to the Treasury to reduce government borrowing and to provide funds for an energy conservation and conversion trust fund.

Mr. Waggoner

The rebate would be deleted and the revenues of any wellhead tax placed in a trust fund to be used for energy research and development, oil and gas exploration, stocking of strategic petroleum reserves, and mass transit development.

Mr. Rangel

The home heating oil rebate would be reduced to one-half of heating fuel expenditures for taxpayers with incomes over \$35,000.

The home heating oil rebate would be extended to State, county and local governments, tax-exempt institutions, not-for-profit institutions and volunteer police, fire and ambulance groups.

The per capita rebate would be a refundable credit for all individuals, but would phase out for joint returns between \$19,000 and \$25,000 so that families with income above \$25,000 would receive no rebate. (Single people above \$12,500 would also receive no rebate.) Individuals on various government retirement and income maintenance programs would automatically be eligible for the refundable credit and would receive notices of their eligibility through those programs.

Mr. Jones

A portion of the wellhead excise tax would be credited or rebated to energy producers who make qualified investments involving research and development for new sources of energy.

Mr. Fisher

The major fraction of wellhead excise tax revenues would be rebated to lower income individuals, with the remainder used to encourage increased energy supplies.

Mr. Gephardt

In addition to the per capita rebates, revenues from the tax would fund a consolidated transportation account, an energy research and development trust fund, and block transportation grants for States.

Mr. Tucker

To the extent that users of propane and other natural gas liquid products for home heating purposes are affected by the equalization tax, they would be eligible for a tax rebate comparable to the oil, home heating rebate.

Mr. Archer

The home heating oil rebate would be applied to customers whose homes are heated with electricity to the extent the electricity is generated with oil.

Mr. Steiger

The increased energy costs of the tax would be reduced for low income individuals through the establishment of fuel stamp program, similar to the food stamp program.

Other proposals

The special rebate for home heating oil could be eliminated or reduced to 50 percent. Alternatively, if the rebate is retained, oil refined abroad could be made eligible for the rebate as well as domestically refined oil.

Another alternative would be to pay the money used for the home heating oil rebate to the States in proportion to each State's consumption of home heating oil. The payment would be contingent on States' using the money for tax reduction, energy conservation programs or aid to individuals and institutions especially disadvantaged by high prices for home heating oil (like senior citizens and hospitals).

The general per capita rebate could be amended as follows: There could be a tax credit equal to a flat amount for each taxpayer and spouse (but not for dependents). The credit would generally be limited to tax liability, but it could exceed tax liability for recipients of the earned income credit. There would also be payments to adult beneficiaries of social security, SSI, railroad retirement, and AFDC, to the extent that these people did not get a full tax credit. Any other adults could claim a similar payment to the extent they did not get either a tax credit or a special payment.

The amount of the per person rebate could be computed under the assumption that one-fifth of the wellhead tax is absorbed by oil refiners and other businesses, rather than giving the Treasury the authority to determine the size of the rebate by making its own assumption.

Some part of the revenue from the tax could be put into a trust fund for energy research and development, State and local conservation programs, public transit and other purposes.

VI. AREAS FOR COMMITTEE CONSIDERATION

General alternatives

There are a number of possible alternatives facing Congress in determining oil pricing policy.

First, the status quo could be allowed to continue. This would preserve prices to consumers below the world oil price, but would not encourage oil conservation or additional production. In addition, this policy would require retention of the entitlements program and other controls on the oil industry, with which there is widespread dissatisfaction.

Second, there could simply be decontrol of oil prices, which would cause U.S. oil prices to rise up to the world price. This would cause higher prices to consumers, which would reduce demand for oil, and would also encourage producers to increase supplies. It would, however, transfer a considerable amount of income from oil consumers to oil producers.

Third, there could be a combination of decontrol and a windfall profits tax. This would raise prices to consumers, would leave some additional incentive for production, assuming that the windfall profits tax would have a rate lower than 100 percent, and would generate substantial revenues which could be rebated back to consumers to compensate them for part of the price increase.

Fourth, price controls could be continued but the price to consumers could be increased through a wellhead tax on crude oil. The revenue from the wellhead tax could be rebated to consumers to compensate them for higher prices, or some of it could be rebated to producers in the form of incentives for greater supply.

Another way to induce conservation would be through mandatory programs—either rationing of certain petroleum products, outright bans on certain uses of oil that are deemed to be wasteful, Sunday closing of gasoline stations, and so forth. Such mandatory programs generally involve intrusions into decisions that are best left to individuals or individual businesses. They also may involve substantial administrative costs. Consequently any system of mandatory allocations or rationing should probably be limited to dire emergencies. Conservation through increased prices does not require a large administrative apparatus, nor does it require the government to interfere in the private lives of its citizens. Each citizen can arrange his life style in accordance with his own priorities and financial resources, but is given an incentive to conserve energy because of its higher price.

The Administration proposal basically follows the fourth approach of imposing a wellhead tax with the rebates going to consumers. However, the Administration proposal does afford some incentives for increased production in the form of high controlled prices (about \$13.30 per barrel, adjusted for inflation) for "new new oil." While there is some reason to question the Administration's definition of new new oil

(see discussion below), the theory underlying this approach is that the greatest expense and risk will be borne by producers who are attempting to discover new reserves, but that higher prices are not needed for production from already existing reservoirs.

If the basic choice comes down to a decision between decontrol and a windfall profits tax or the Administration proposal of continued price control and a wellhead tax, several observations may be in order. First in connection with the windfall profits tax, it should be noted that one of the critical elements, i.e., price decontrol, is not within the jurisdiction of the Ways and Means Committee (although it presumably would be within the jurisdiction of the Ad Hoc Committee on Energy).

Second, one of the basic arguments in favor of the windfall profits tax approach is that it would encourage production. There is considerable controversy concerning the question of whether higher prices to producers (other than higher prices on new oil) would encourage increased oil production and to what extent any increased oil produced would simply involve more rapid depletion of our oil reserves. The current price for new oil (\$11.03 per barrel) and the higher prices the Administration proposes to provide for new oil and production from tertiary recovery techniques seem sufficiently high to encourage a considerable amount of drilling. There has been, in fact, a substantial increase in drilling in the last several years. However, this drilling does not appear to have led to any significant increase in our proven oil reserves. (See discussion above under "Background.")

The existing price control system, however, does provide some disincentive to enhanced recovery, which involves injection of water gas or chemicals, into an oil field in order to force the oil into a position where it can be pumped out of oil wells. In many cases, the additional oil to be produced through secondary recovery is defined as old oil, and producers have an incentive to postpone their secondary recovery investments until a time when price controls have been eliminated and they will be able to receive higher prices for this oil. The existing price control regulations attempt to deal with this problem by providing price incentives for incremental increases in production resulting from enhanced recovery techniques, but these regulations are only partially successful in meeting the problem. It is not clear, however, just how much additional oil would be produced if prices were decontrolled. A combination of decontrol plus a windfall profits tax in which the windfall profits tax phases out over time would contain essentially the same incentive to postpone production until after the phaseout.

Finally, it should be noted that to some extent, at least, it is possible to achieve similar results through the mechanisms either of a windfall profits tax or of a wellhead tax. For example, if Congress should decide that it wants to freeze producers profits at current levels, increase the cost of oil products, but rebate all of the increased cost to consumers in the form of tax credits, this result can be achieved either by decontrolling prices with a 100 percent windfall profits tax and full rebates to consumers, or by continuing price controls and imposing a wellhead tax with rebates to consumers. If, on the other hand, Congress should decide that further incentives to producers are desirable, it would be

possible to do this by including a plowback provision as part of a windfall profits tax or as part of the wellhead tax proposed by the Administration (see discussion below).

Energy conserving effects of higher oil prices

Higher oil prices to consumers, as would occur under either price decontrol (with or without a windfall profits tax) or a wellhead tax on price-controlled oil, have several advantages from the standpoint of economic efficiency. For the United States as a whole, the refiner acquisition cost of an additional barrel of oil is now over \$14.00 (plus whatever national security problems result from greater dependence on oil imports), yet the price of crude oil is several dollars less than this. This differential encourages wasteful consumption and over-dependence on imported oil.

There is some dispute about just how sensitive oil consumption is to changes in prices and by how much consumption would decline if the U.S. price were raised to the world price. It is generally agreed that in the short run oil consumption will not vary significantly in response to price changes. This is because individuals and businesses have invested in capital goods that require oil, such as gas guzzling autos, uninsulated homes, and oil-fired boilers. In the longer run, however, there is probably a significant response of oil consumption to price increases, although the precise measures of this responsiveness vary considerably from one study to another. Because U.S. oil prices have been low for such a long time and have only been high in recent years, it is difficult to get any reliable estimates of the responsiveness of oil consumption to price changes by looking only at the U.S. experience. However, oil prices are much higher in Europe, and European countries whose standard of living is just as high as it is in the United States consume considerably less oil per capita, which is probably partly a response to higher prices.

There is considerable question about the extent to which the American consumer is benefiting from current price controls on crude oil. About half of refined petroleum products are not now subject to price controls, and there is doubt about the efficacy of the controls on gasoline, the principal product still subject to controls. Some U.S. refiners have probably been able to capture for themselves some of the benefits of the price controls on old oil rather than pass them on to consumers as lower prices for petroleum products. Residual fuel oil produced and sold in the U.S., for example, is now selling at approximately the world market price despite the fact that world residual fuel oil prices are based on world crude oil prices, not on the U.S. controlled crude oil price. It is also possible that the regulations on the distribution of certain petroleum products are inhibiting competition, which may mean that the full benefits of price controls are not being passed through to consumers. Finally, to the extent that oil is used by U.S. businesses which are selling products (such as steel) for which the price is generally determined by reference to world markets, it is probable that these businesses are realizing some windfall under the current price control system, because their foreign competitors are paying the world price for oil, and must reflect this cost differential in the prices which they charge for their products.

The Administration estimates that consumers now receive only two-thirds of the benefit of the price control on crude oil and that oil

refiners and possibly distributors are receiving the other one-third. If this is the case, then an additional benefit of raising the price of crude oil to the world price would be the elimination of this windfall profit that is being received by certain oil refiners, distributors, and other businesses, and the recycling of this money back to consumers in the form of tax rebates.

A problem with raising oil prices to consumers is that higher prices will give them less income to spend on other goods and services, which would depress the economy. This problem would be largely eliminated if the revenue from any tax on oil were fully rebated to consumers. Oil producers would probably spend a smaller fraction of any additional income than oil consumers. Therefore, any policy that transfers income from consumers to producers, such as decontrol of oil prices without a windfall profits tax, would depress the economy initially unless offset by other stimulative policies.

Another disadvantage to raising oil prices is that it would increase the rate of inflation, which could initiate a wage-price spiral. Raising the U.S. oil price to the world oil price over a three-year period would increase the rate of inflation by about 0.2 percent per year plus whatever indirect inflationary pressures occur because of a wage-price spiral resulting from this initial price increase.

Oil consumption tends to rise as an individual's income rises, but tends to fall as a percent of income. Therefore, a policy that raised oil prices through a wellhead tax and rebated the money back to consumers on a per capita basis would tend to favor the poor. However, if the money were rebated back through a proportional income tax cut, the program would be disadvantageous to the poor.

Assuming, as seems likely, that the demand for oil can be affected to some extent by higher prices, the question then arises as to whether this conservation effect is weakened by a system of rebates in which the full amount of the increased cost of oil is returned to consumers in the form of tax credits. It seems likely that the conservation impact of this approach will still be substantial. First, there will be a psychological impact on the consumer each time that he must pay the increased cost of petroleum products in the market place. This psychological effect will not necessarily be reduced even though the consumer realizes that he will eventually recover these increased costs through the tax system.

Second, the rebate will be made on a per capita basis. This means that individuals who conserve energy may receive a rebate which exceeds their actual increased costs of petroleum products for that year. On the other hand, individuals who do not conserve will not be fully reimbursed by the rebate for their increased cost of petroleum products.

Issues concerning the proposed tax

Plowback

One way to provide an incentive for increased supply is through so-called plowback provisions. A plowback provision gives oil producers a tax credit for certain investments in oil related activities. In the past, the committee has considered a plowback credit in connection with the windfall profits tax, and there could also be a plowback credit against the crude oil equalization tax. If there is to be a plow-

back credit, decisions must be made on what investments are to be eligible, whether there should be a threshold level of investment which producers should have to exceed before their investments begin to be eligible for the plowback credit, and whether there should be some overall limit on the amount of the tax that can be offset with plowback credits.

There are some general problems with plowback provisions. A plowback credit provides an incentive for making investments only to people who are already oil producers. An alternative approach would be to use the same amount of money to provide an incentive that would be more generally available, such as an income tax credit for intangible drilling costs. Also, unless there is a high threshold level of investment, many producers will be able to qualify for the maximum allowable plowback credit simply by making the investments they would have made anyway, so that the plowback credit would not encourage any additional investments. However, with a high threshold, other producers will be so far below the threshold that they will have little incentive for additional investments.

Currently, many investments in oil and gas production qualify for favorable tax treatment. Unless a plowback credit is designed carefully, it can lead to situations in which an investment leads to overall tax advantages that equal or exceed 100 percent of the investment. This would encourage wasteful investments. This problem can be alleviated by limiting the plowback credit to less than 100 percent of qualified investments in excess of the threshold.

If the investments which qualify for plowback go beyond oil and gas extraction, then the program, in effect, encourages vertical integration of the oil and gas industry by encouraging producers to invest in refining, marketing and other aspects of the business.

Another problem with plowback is that it reduces the amount available for rebates to consumers.

Definition of "new new" oil

As discussed above, the Administration proposes to create a new category of oil, known as "new new" oil, which would consist of oil which is located more than 2½ miles from any onshore domestic well in existence on April 20, 1977, or more than 1,000 feet deeper than any well within the 2½ mile radius, or from an offshore lease entered into after April 20, 1977.

Oil which meets this definition would be entitled to receive a substantially higher price (and would be subject to a much lower crude oil equalization tax, if any) than oil which merely qualifies as new oil under current price control regulations.

This is an issue which crosses the jurisdictional lines of several committees. Price controls are not within the jurisdiction of the Ways and Means Committee. If the definition of new new oil, as proposed by the Administration, is acceptable to the Committee on Interstate and Foreign Commerce, it would not make sense for the Ways and Means Committee to adopt a different definition, deciding, for example, not to impose a wellhead tax on oil from wells more than one mile from any well in existence on April 20, 1977. This oil would continue to be price controlled, probably as new oil at \$11.03 per barrel, and the only effect of the committee action would be that this

oil would be exempt from the equalization tax, so that oil refiners would have an increase in their profits equal to the foregone tax revenue.

On the other hand, this definition is certainly important to the committee in evaluating the totality of the Administration's proposal and in determining whether, for example, the committee believes that the proposal provides sufficient incentives for new production. Also, the members of the Ways and Means Committee who are also members of the Ad Hoc Committee on Energy will be able to make recommendations to that committee as to the proper definition of new new oil.

The Administration proposal does not take account of geology in determining whether a particular well represents the discovery of a new reservoir or constitutes an additional well exploiting an already discovered reservoir. In fact, no hard and fast rule as to distance or depth will satisfy this purpose since wells which are relatively close together can tap different reservoirs and wells which are relatively far apart can both tap the same reservoir.

When the committee has considered this question in the past, it has considered an approach based on geological factors, such as bottom hole pressure and seismic measurements. This type of approach has the disadvantage that it is decidedly more difficult to administer than tests based on hard and fast rules as to distance or depth. One disadvantage of classifying new new oil based on geological testing is that it will generally be necessary to run the tests after the well has been completed. The purpose of the higher price for new new oil is to provide an incentive for discovery. This incentive will be sharply reduced if the producer cannot be sure how his oil will be classified until after the well is successful.

Another area where additional incentives may be desired is enhanced recovery. Only a relatively small fraction of the oil or gas in a particular reservoir is extracted through so-called primary production. There are a wide variety of techniques, called enhanced recovery techniques, to increase the rate of extraction. Techniques that are commonly used today include injecting gas or water into an oil well to maintain the pressure which forces the oil up to the ground through the well, or flooding the oil reservoir with water pumped into it through water injection wells to force the oil into a position where it can be pumped out of an oil well. There are other, more exotic, techniques which have much higher costs and many of which are only experimental. These include injecting chemical additives into the reservoir or injecting steam or some other form of heat to liquefy extremely viscous oil. Currently most of the costs involved in these enhanced recovery techniques are written off immediately and in that sense receive favorable tax treatment.

It is extremely difficult to determine how much additional oil is produced as a result of enhanced recovery. Currently almost half of all oil produced in the United States is produced on a property which uses some form of enhanced recovery, but only a much smaller fraction of this oil would not have been produced without enhanced recovery. Therefore, it is extremely difficult to draft a tax incentive that applies only to the additional oil that results from enhanced recovery. In addition, it is very difficult to draw a clearcut distinction between the different techniques of enhanced recovery, and therefore it would

be difficult to design a tax incentive that applied only to those more unusual techniques which are not already profitable at current prices. (For example, there is no clearcut distinction between what is commonly termed secondary recovery and less widely used techniques commonly termed tertiary recovery.)

Probably the most efficient form of added incentive for enhanced recovery would be higher prices (a subject which is not within the jurisdiction of the Ways and Means Committee). Present FEA regulations permit higher prices for incremental production which results from enhanced recovery techniques, but these rules will prove difficult to administer, largely because it is so difficult to determine how much production results from enhanced recovery techniques, and how much production would have occurred even in the absence of those techniques.

Natural gas liquids

The Administration proposal does not impose a tax on natural gas liquids (principally propane and butane), which emerge from the ground as gas but which are subsequently liquefied. However, some natural gas liquids presently are subject to price controls similar to crude oil.

Natural gas liquids and oil products are interchangeable for some purposes. If the price of crude oil is increased to world prices by a crude oil equalization tax or price decontrol without any similar action for natural gas liquids, there will be an excessive demand for, and probably shortages of, these natural gas liquids because these fuels would then be selling below world market prices. In order to prevent this excessive demand, the committee could extend the crude oil equalization tax to those natural gas liquids which remain subject to price controls.

Scope of Presidential authority

Under the Administration proposal, the President is given the authority to suspend or postpone increases in the level of the tax if the price of world oil increases substantially more rapidly than the rate of inflation. The argument for allowing some discretion in this area is that if the price of world oil escalates too rapidly, the economic impact should be cushioned to some extent by not making a corresponding cost increase with respect to domestic oil.

There are, however, other ways to achieve this same effect. For example, the Congress could establish guidelines under which this discretion is to be exercised. Thus, it could be provided that the tax rate would not increase by more than 10 percent per year.

The argument against this approach is that such a percentage might serve as a target for OPEC, i.e., OPEC might assume price rises of 10 percent a year were permissible.

Another alternative in this area might be to make the exercise of Presidential discretion subject to a Congressional veto.

Imposition of tax

Another technical issue in connection with the Administration's proposal is who should pay the tax. The Administration's proposal imposes the tax on the refiner. It appears that under present law, refiners probably would have the records necessary to make them pay the tax. This is because, under the entitlements program, refiners are

required to keep records on the amount of oil of each particular classification which they acquire. However, after the crude oil equalization tax is fully phased in, the Administration proposes to abolish the entitlements program. Part of the administrative simplicity which the Administration wishes to achieve would be lost if the refiners were required to keep the same records which they are required to keep under present law in order to compute the amount of crude oil equalization tax for which they were liable.

One problem with the Administration's proposal arises when the person who purchases the oil at the wellhead is someone other than the refiner or other first user of the oil. Thus, it could be provided that the tax would be imposed on the first purchaser.

Imposing the tax in this manner may solve a problem for producers under State laws. The producers must pay severance taxes based on the price which they receive for their oil. If the tax is imposed on the first purchaser, it should be clear that the tax is not part of the price received for the oil by the producer.

Changing quality differentials

Another technical problem arises because the wellhead tax proposed by the Administration is based on the national average prices of upper and lower tier oil. Within each tier, however, the price of a particular barrel of oil may vary considerably depending on location, quality and other factors. If these price differentials do not change over time, the Administration's proposal does not present a problem; however, to the extent they have changed since the imposition of price controls, or change in the future, the Administration's proposal can create inequities and disincentives to production.

Suppose that there are two grades of crude oil, each of which accounts for one-half of domestic production. Grade A oil is controlled at \$4 per barrel and Grade B is controlled at \$6 per barrel, for an average controlled price of lower tier oil of \$5. Suppose also that the quality differential has widened over time so that in an uncontrolled market refiners would be willing to pay \$11 for Grade A oil and \$15 for Grade B oil. Because the world price is \$13, the Treasury would establish a wellhead tax rate of \$8 per barrel (\$13 minus \$5).

With an \$8 wellhead tax, refiners will be willing to pay only \$3 per barrel for Grade A oil (\$11 minus \$8), and its wellhead price will fall from \$4 to \$3. Refiners will be willing to pay \$7 per barrel for Grade B oil (\$15 minus \$8), but its price will remain controlled at \$6 per barrel. This imposes a hardship on producers of Grade A oil, and it could also discourage production.

A second problem is that the decline in the price of Grade A oil will lower the national average price of lower tier oil from \$5 to \$4.50, and under the Administration's proposal the Treasury would raise the wellhead tax rate from \$8 to \$8.50 (\$13 minus \$4.50). Thus, the wellhead price of Grade A oil would fall further to \$2.50 (\$11 minus \$8.50), leading to a further increase in the wellhead tax rate, and so forth.

One approach to avoid these problems would be to change the structure of the tax so that it was based specifically on the difference between the controlled price of oil of a specific grade, type and location (i.e., generally oil from a particular field) and the uncontrolled price

of oil of the same type, grade and location. In cases where stripper oil was produced in the same location, the uncontrolled price would be the stripper price; in other cases, it might be necessary for the FEA to compute an uncontrolled price.

The principal disadvantage to this approach would be the administrative problems which might be involved. There would be a multitude of different taxes on controlled oil (as opposed to only three taxes under the Administration proposal, a first tier tax, a second tier tax, and possibly a small tax on new oil if the world price of oil rises faster than the permitted inflation adjustments with respect to that oil). Many of these taxes would vary by only a few cents. On the other hand, it appears that the information necessary to compute the taxes at the wellhead does exist (or could be imputed by the FEA with regard to the uncontrolled price of certain oil) and producers might well accept some administrative difficulty in order to avoid the price inequities discussed above.

Another, simpler approach to reduce these technical difficulties might be to make certain technical amendments to the Administration's proposal. The ratcheting problem with the Administration's proposal can be solved with a technical change. Instead of setting the wellhead tax rates for each tier of oil equal to the difference between the national average refiner acquisition cost of imported crude oil and the national average cost of that tier of domestic oil, the rate for each tier could equal the difference between the refiner acquisition cost of imports and an imputed refiner acquisition cost of that tier of oil which is based on the greater of (a) the actual price of the oil from a particular property or (b) the May 1977 price. Under such a formula, any decline in the price of controlled oil below its May 1977 price would not cause the wellhead tax rate to increase.

It is more difficult to solve the problem that producers of certain types of oil will experience price declines if the price of their oil has declined relative to the national average for that particular tier. There are, however, several mitigating factors. Exactly the same problem exists under present law with the entitlements program. Also, to the extent that there is a plowback provision or some other supply incentive, there will be an offsetting benefit to the producers who are disadvantaged by the Administration's formula.

This problem could be alleviated by permitting those producers of controlled oil whose price declines below their May 1977 price to receive a tax abatement equal to perhaps 50 percent of the price decline. (The abatement must be less than 100 percent of the shortfall to account for the reduction in State and local severance taxes resulting from the price decline and to avoid giving buyers and sellers an incentive artificially to reduce the price.) The money used to pay such abatements would reduce the amount available for rebates to consumers.

Issues concerning the proposed rebate

Home heating oil rebate

The Administration proposal provides that 100 percent of the tax allocable to home heating oil be rebated to users of domestically refined home heating oil. This rebate would be achieved through a rebate to distributors of home heating oil that is conditional on their passing the rebate on to consumers in lower prices.

The argument in favor of such a special rebate for home heating oil is that this particular use of oil is more of a necessity than other uses, that consumers would not reduce consumption significantly in response to a price increase, and that the substantial price increases for home heating oil have imposed a hardship on many low-income people.

Those who oppose special treatment for home heating oil argue that there is considerable waste in this use of oil, because many people overheat their homes and fail to insulate them, and that there would be some response to a higher price.

The Administration special rebate for home heating oil creates some difficulty for oil distributors, who must pass the rebate on to consumers prior to receiving refunds from the government. Also, the rebate requires considerable recordkeeping by distributors who sell both domestically refined and imported fuel oil.

In addition, there is a question as to whether home heating oil should be singled out for special treatment. First of all, there are certain utilities which burn oil to produce electricity, and certain homes served by those utilities are heated by electricity. If there is to be a special adjustment or rebate for home heating oil, a question arises as to whether a similar rebate should be available for those homes heated indirectly by oil, i.e., by means of oil-burning electric utilities.

Moreover, it may be argued that the effect of the crude oil equalization tax will be to raise the price of all energy. The correlation will not be a perfect one, because there is competition within each fuel industry as well as competition between fuels generally. But it seems likely that an increase in the cost of oil will eventually increase the cost of coal and nuclear fuel as well. The question would then arise as to whether homes heated by coal burning or nuclear electric utilities should not also receive a special rebate.

The only homes which are largely protected under the Administration proposal are those burning natural gas. While the cost of this fuel will also increase under the Administration proposal, the Administration proposes to allocate high cost new gas to industrial users so that cost of gas for home heating would remain relatively inexpensive. In addition, the proposed changes in utility rate structures provide some benefit to residential consumers of electricity.

The committee may want to consider whether a special rebate for home heating oil is appropriate and, if so, whether the rebate should be 100 percent of the tax. If the administration is correct in asserting that only two-thirds of the benefit of crude oil price controls is being passed on to consumers as lower prices, or if some incentive for conserving home heating oil is desired, then a rebate of less than 100 percent may be more appropriate. Reducing or eliminating the special home heating oil rebate would increase the amount available for general rebates. The energy saving from eliminating the home heating rebate would be about 100,000 barrels of oil per day by 1985.

One argument in favor of the home heating rebate is that certain regions of the country consume a disproportionately large amount of home heating oil and would be particularly hurt by higher prices (even the 3 to 5 cents per gallon increase that would be caused by the equalization tax). One way to deal with this problem that would avoid the complexity and disincentive to conservation of the home heating oil rebate would be to rebate the money to States based on

that State's consumption of home heating oil each winter. These rebates could be made conditional on the States using the money to reduce their own taxes and possibly to use the money to relieve the burden of needy people and institutions (like senior citizens and hospitals) who are unable to turn down their thermostats, or who are especially hurt by high heating oil prices.

If the committee agrees to the special rebate for home heating oil as proposed by the Administration, the program could be greatly simplified by allowing a rebate for imported heating oil as well as domestically refined heating oil. This would considerably reduce the recordkeeping required by fuel oil distributors. In addition, providing the rebate only for domestically refined heating oil insulates U.S. refiners (who are now operating at close to 100 percent of capacity) from foreign competition. Such a barrier to trade would have the effect of raising heating oil prices to consumers and prevent them from receiving the full benefit of the rebate.

General issues concerning the rebate

Under the Administration proposal, the amount to be distributed in per capita rebates is to equal the gross tax collections minus the home heating oil rebate, the administrative costs of the rebate, and an estimate of the revenue lost as a result of business deductions for the wellhead tax.

The business deductions for the tax which will reduce its net revenue yield are those of the oil refiners and other businesses who may not currently be passing through to consumers all of the benefits of crude oil price controls. They will have to pay higher prices for crude oil as a result of the wellhead tax, but they will not be able to pass it all on to consumers in higher prices and, therefore, will have lower profits and will pay lower income taxes. The Administration estimates that one-third of the wellhead tax will not be passed on in this fashion, so that reduced income taxes by refiners will amount to about 15 percent of the gross amount of the tax (assuming a 45 percent tax rate). The one-third figure is a very speculative one, and the committee may want to mandate its own figure. If anything, the estimate that one-third of the tax will not be passed through to consumers is probably a little too high, and a figure of one-fifth or one-quarter may be more appropriate. However, there are studies which conclude that prices of petroleum products to consumers would rise little, if at all, if crude oil prices were decontrolled. Reducing the estimate of the amount of the wellhead tax that will be absorbed by refiners would increase the amount available for rebates to consumers.

The Administration proposal would distribute the rebates on a per capita basis. Most of the overall rebate would be a tax credit equal to a fixed amount for each taxpayer and dependent. Also, there will be special payments to recipients of social security, supplemental security income (SSI), railroad retirement and aid to families with dependent children. People not entitled to a tax refund or payment under one of these programs could file a form and claim their rebate.

This formula would lead to a certain number of double payments. People who are dependents of others and who themselves are taxpayers would receive a per capita payment for themselves and would generate a per capita payment for the person who claimed them as a dependent. Also, it is administratively very difficult to eliminate all double payments to beneficiaries of the income maintenance programs who

would also be receiving a tax refund. Such double payments would be a greater problem in a permanent rebate program than they would have been in a one-shot economic stimulus program.

The problem with double payments would be significantly alleviated if the per capita rebates were made available only to taxpayers, not to their dependents, and if the special payments to recipients of income maintenance programs were limited to adults. The rationale for these limitations is that energy consumption does not vary linearly with family size and, therefore, a payment that is limited to adults and to children who have tax liability would correspond better to the actual burden of the wellhead tax than would a per capita payment. Gasoline consumption is 40 percent of overall oil consumption in the United States, and it is consumed entirely by adults. Consumption of oil for other purposes goes up with family size but far less than proportionately.

Another type of "double dipping" occurs when an individual is a beneficiary of a federal program which is adjusted for the cost-of-living such as social security or federal employees' retirement. The crude oil equalization tax would increase the consumer price index and thereby lead to an increase in social security and Federal retirement benefits. Social security beneficiaries and Federal retirees, then, would get both their per capita rebate and their cost-of-living adjustment. This type of double dipping could be eliminated by reducing the cost-of-living adjustment in social security and other federal programs to take account of the per capita rebate of the wellhead tax.

Other uses of tax revenues

As an alternative to rebating all of the crude oil equalization tax, the Committee may also wish to consider putting a portion of the tax into an energy trust fund to aid certain energy saving activities. For example, some of the tax could be used to subsidize mass transit. Similarly, some of the tax could be given to States to be used to increase the amount of car pooling. (For example, funds could be provided for special car pooling lanes or for computers to arrange car pools.) Finally, some of the tax could be used for research and development of additional energy supplies or of more energy efficient devices and processes.

