

ENERGY TAX ACT OF 1977

HEARINGS
BEFORE THE
COMMITTEE ON FINANCE
UNITED STATES SENATE
NINETY-FIFTH CONGRESS
FIRST SESSION
ON
TITLE II of H.R. 8444
THE ENERGY TAX ACT OF 1977

PART 1

ADMINISTRATION WITNESSES
AUGUST 8 AND 9, 1977

Printed for the use of the Committee on Finance



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ENERGY TAX ACT OF 1977

MONDAY, AUGUST 8, 1977

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, D.C.

The committee met, pursuant to notice, at 10 a.m., in room 2221, Dirksen Senate Office Building, Hon. Russell B. Long (chairman of the committee) presiding.

Present: Senators Long, Talmadge, Matsunaga, Packwood, Roth.
Also present: Senator Melcher.

The CHAIRMAN. The hearing will come to order.

First, let me explain that these hearings were called only about 1 week before the recess, and many Senators had made their plans, which precluded them from being here.

Senator Packwood assured me that he could be with me to help conduct these hearings. The Majority Leader, Senator Byrd, asked that we proceed with this measure as soon as possible and that we consider holding hearings through the recess.

I have a letter from Senator Dole complaining that he had made other plans, and I will make that available for the record.

[The letters from Senators Byrd of West Virginia and Dole follow:]

U.S. SENATE,
OFFICE OF THE MAJORITY LEADER,
Washington, D.C., July 28, 1977.

HON. RUSSELL B. LONG,
Chairman, Committee on Finance,
U.S. Senate, Washington, D.C.

DEAR RUSSELL: Pursuant to our several conversations on the subject, I simply wish to voice again my hope that your committee can proceed with hearings on the tax aspects of the President's energy package prior to or during the August recess, if at all possible.

I am aware of the inconvenience that will be caused you and your committee by the fact that the House will not be getting its energy bill over to the Senate until just prior to the August recess. However, in looking toward our hoped-for October adjournment date of the 8th, I respectfully make the foregoing request.

With highest personal esteem always, I am, believe me,

Cordially yours,

ROBERT C. BYRD, *Majority Leader.*

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, D.C., August 8, 1977.

HON. RUSSELL LONG,
Chairman, Senate Finance Committee,
U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: It is unfortunate that the Finance Committee's energy hearings come at a time when I, and so many of my colleagues, have prior com-

mitments to other legitimate Senate business that must be honored. I wish at the commencement of this week's activities to express my concern and displeasure that the hearing schedule conflicts with other recess activities. The decisions made in this committee will have a major impact on this Nation's energy program and on our way of life for decades to come. Consequently, the committee's work is deserving of the full attention and participation of each member.

Energy is important to all Americans and has been a special concern of mine for many years, especially so since Kansas is a significant producer of both oil and gas. I intend to closely study the testimony of witnesses and the record of the proceedings. I hope that I, and other absent members, will have the right to submit questions to the witnesses and to recall them, if necessary.

The administration's energy tax program is deserving of close scrutiny as it fails to adequately assure the American people that the Nation will have the increased energy supplies it needs now and in the future. In addition, the administration's plan does not provide sufficient protection to domestic producers and refiners—especially the independents. I intend to legislatively pursue these matters on my return to Washington.

Sincerely yours,

BOB DOLE, *U.S. Senate.*

The CHAIRMAN. What we will seek to do is obtain as much information as we can for the benefit of all Senators and the Nation as a whole. We will provide a copy of the witnesses' testimony to every Senator, and we will also provide copies of questions and answers that have been asked prior to this time. With regard to some witnesses—perhaps with regards to all—members of the committee who had made other plans and who cannot be here at this time might want to call those witnesses back and interrogate them with regard to certain matters of concern to those Senators. If they want that done, that will be done.

Of course, it will require some additional time-hours, and we will ask them to conduct the hearings during most of that time.

In the view of the chairman, it was very important that we commence these hearings so that everyone could digest the information that can be made available to us and so that they can be thinking about it and generating their own ideas, during the recess. When the other members come back, hopefully they will be in a better position to make a contribution.

With that understanding, I would like to make a brief statement about the hearings in other respects. We begin hearings today on one of the most critical problems now facing our Nation—the energy problem. We will be meeting the rest of this week and through September to consider an energy policy with a far-reaching and important goal. That goal should be to insure that the United States has enough energy to sustain a healthy and productive economy which provides job opportunities for all Americans.

By failing to take corrective action in the past, this Nation has permitted its energy problem to reach crisis proportions. We are to the point of paying \$42 billion this year for imported oil. Our oil imports are so large that we will probably suffer a record trade deficit in 1977 of over \$30 billion. These deficits are a serious drain on our economy. They point up the importance of taking steps to curb our oil imports.

The bill before us makes a laudable effort to reduce consumption and make more efficient use of what we use. But if we are going to fashion a truly effective energy policy, our bill should not overlook a single opportunity to create more energy supplies.

In my view, the President's program is lacking with regard to half of the problem—the desperate need to increase energy production.

The weakness of the President's bill is that it calls for sacrifices from the American public in the form of higher taxes, but it does not assure more reliable supplies of energy.

Some people call greater energy incentives a "drain America first" program. That idea is bankrupt. We have enormous reserves of conventional sources of energy—enough to last us for hundreds of years. Long before they are exhausted, we will have developed solar, geothermal and nuclear power adequate to provide our needs forever. I certainly intend to do all that I can in this bill to encourage greater domestic energy production.

[The Committee on Finance press release follows. Title II of H.R. 8444, the subject of these hearings appears as appendix A in part 2 of these printed hearings.]

[Press Release]

FINANCE COMMITTEE ANNOUNCES HEARINGS ON TITLE II OF H.R. 6831, THE ENERGY TAX ACT OF 1977

The Honorable Russell B. Long (D., La.), Chairman of the Senate Committee on Finance, announced today that the Committee will hold hearings on the Energy Tax Act of 1977 beginning Monday, August 8, 1977. The Committee will meet daily through Friday, August 12, 1977 to receive public testimony concerning this measure. The hearings will begin at 10:00 A.M. in Room 2221, Dirksen Senate Office Building each day.

The hearings will continue after Labor Day, beginning Thursday, September 8. Senator Long stated: "The subject of this legislation is a complex one which will require detailed review by members of the Finance Committee, and the sooner members can begin this process the better. I am directing the Committee staff to send copies of testimony to all members of the Committee who are unable to attend the August hearings so that they may use the recess to good advantage by considering the specific points raised in the testimony."

Requests to testify.—Chairman Long stated that witnesses desiring to testify during these hearings must make their requests to testify to Michael Stern, Staff Director, Committee on Finance, 2227 Dirksen Senate Office Building, Washington, D.C. 20510, not later than Monday, August 1, 1977. Witnesses will be notified as soon as possible after this cutoff date as to when they are scheduled to appear. If for some reason the witness is unable to appear at the time scheduled, he may file a written statement for the record in lieu of the personal appearance.

Early submission of testimony.—Senator Long urged individuals and organizations with suggestions for changes in specific or detailed provisions of the House bill to submit their testimony early (even if they will be scheduled to testify later). This will permit Committee members and staff an opportunity to consider these suggestions in the brief amount of time available before the Committee markup begins.

Consolidated testimony.—Chairman Long also stated that the Subcommittee urges all witnesses who have a common position or with the same general interest to consolidate their testimony and designate a single spokesman to present their common viewpoint orally to the Committee. This procedure will enable the Committee to receive a wider expression of views than it might otherwise obtain. The Chairman urged that all witnesses exert a maximum effort, taking into account the limited advance notice, to consolidate and coordinate their statements.

Legislative Reorganization Act.—Senator Long stated that the Legislative Reorganization Act of 1946, as amended, requires all witnesses appearing before the Committees of Congress "to file in advance written statements of their proposed testimony, and to limit their oral presentations to brief summaries of their argument."

Witnesses scheduled to testify must comply with the following rules:

- (1) A copy of the statement must be filed by the close of business two days before the day the witness is scheduled to testify.
- (2) All witnesses must include with their written statement a summary of the principal points included in the statement.
- (3) The written statements must be typed on letter-size paper (not legal size) and at least 75 copies must be submitted by the close of business the day before the witness is scheduled to testify.

(4) Witnesses are not to read their written statements to the Committee, but are to confine their ten-minute oral presentations to a summary of the points included in the statement.

(5) Not more than ten minutes will be allowed for oral presentation.

Written testimony.—Senator Long stated that the Committee would be pleased to receive written testimony from those persons or organizations who wish to submit statements for the record. Statements submitted for inclusion in the record should be typewritten, not more than 25 double-spaced pages in length and mailed with five (5) copies by September 14, 1977, to Michael Stern, Staff Director, Committee on Finance, Room 2227, Dirksen Senate Office Building, Washington, D.C. 20510. Copies received by August 19 will be sent to Committee members during the recess.

The CHAIRMAN. Our first witness today is James Schlesinger, the new Secretary of the Department of Energy. Mr. Schlesinger has just taken the reins of the largest energy bureaucracy ever assembled. We hope that he will tell us how he will harness this new department into providing an energy program to meet the Nation's needs.

If other Senators wish to make a statement, I would be glad to recognize them.

Senator PACKWOOD. You will put Senator Dole's letter in the record?

The CHAIRMAN. Yes.

Senator PACKWOOD. I have no statement.

Senator ROTH. I have a statement.

Senator TALMADGE. I have no statement, Mr. Chairman.

Senator ROTH. Mr. Chairman?

The CHAIRMAN. Senator Roth?

Senator ROTH. First of all, I would like to welcome the new Secretary this year and I want to start out by saying that I do share the administration's concern about the seriousness of the energy problem. I believe that action must be taken to reduce our reliance on high-priced foreign oil and to avoid the energy shortages which disrupted our energy this past winter.

I agree with the administration that a comprehensive energy program must be formulated and I did work with the administration on legislation to create the Department of Energy.

In all seriousness, I do not believe that the administration's energy tax program will solve our energy problem. Its adoption would be an economic disaster resulting in higher taxes, unemployment, inflation. If we were voting today, I would vote against the energy tax proposal.

I feel that the administration's program is not an energy program; it is a massive tax increase program which is another rip-off on the middle class. The administration is proposing an income transfer program raising at least \$54 billion in increased taxes over the next 8 years, redistributing some of the money back in the form of a paltry \$22 rebate.

By 1985, this so-called energy program will increase the tax burden on the average family by more than \$2,000 a year. The increased tax burden on working Americans will have a devastating impact on the American economy. According to four separate economic projections, the administration's energy tax program will result in lower economic growth, higher unemployment, and increased inflation.

I believe that we must reject the administration's reliance on higher taxes and greater Federal control and work for a comprehensive energy program to conserve scarce energy supplies and to encourage the increased production of alternate energy resources.

I believe the American people will be willing to make sacrifices if presented with an energy program that offers hope for the future economic growth and jobs.

I do not believe the American people will accept an energy program based upon despair, no growth, and higher taxes.

Thank you.

The CHAIRMAN. I think I would do well to read the letter from the majority leader, Robert Byrd.

Pursuant to our several conversations on this subject, I simply wish to voice again my hope that your Committee can proceed with the hearings on tax aspects of the President's energy package prior to the August recess, if at all possible. I am aware of the inconvenience that will be caused to you and your Committee by the fact that the House will not be getting its energy program over to the Senate until just prior to the August recess.

However, in looking for our hoped for October adjournment date of October 8th, I respectfully make the foregoing request, with the highest personal esteem.

Very truly yours,

ROBERT BYRD.

The CHAIRMAN. Senator Dole asked that he have the privilege of recalling any witness and interrogating him, and of course, that wish will be accommodated.

Mr. Schlesinger, I would be happy to hear from you and your assistants.

STATEMENT OF HON. JAMES R. SCHLESINGER, SECRETARY, DEPARTMENT OF ENERGY; ACCOMPANIED BY LES GOLDMAN, ASSISTANT ADMINISTRATOR FOR RESOURCE DEVELOPMENT, FEDERAL ENERGY ADMINISTRATION AND AL ALM, WHITE HOUSE STAFF

Secretary SCHLESINGER. Thank you, Mr. Chairman.

Mr. Chairman, from the opening observations, I detect that there may be a greater degree of skepticism in this committee than we have encountered in other committees, and I will regard it as my duty to attempt to dispel whatever skepticism may exist.

The CHAIRMAN. We can be persuaded, Mr. Secretary.

Secretary SCHLESINGER. Mr. Chairman, I have a lengthy statement here, and I am prepared to place it in the record and to summarize where we stand in relation to three major points.

First, the national problem.

Second, the legislation that lies before this committee regarding tax and tax credit measures to deal with our energy problem.

Third, the issue that you and Senator Roth have raised regarding the production of energy.

Mr. Chairman, we face a national problem. Sometime in the 1980's, we will reach a point worldwide in which the production of oil cannot be substantially expanded. Before then, we will be pressing against our own limits of capacity and in the 1990's by all estimates, we will, worldwide, be peaking out in terms of production of oil.

We have, Mr. Chairman, in the last 50 years, and notably since World War II, become increasingly dependent upon oil, which is a finite resource, and in which we cannot expect to see substantial further increases in worldwide capacity. From this point at which

worldwide we are producing approximately 60 million barrels a day, it is difficult to see production expanding beyond 80 million barrels a day.

For this reason, we must cure our tendency to rely on increases in supplies of oil before we face the point of stringency which has been projected for the middle 1980's, if we fail to take action, and which will occur at a later point even if we do take action.

Much will be said, Mr. Chairman, about the economic consequences of the President's plan. Without the standby gasoline tax, the impact on inflation will be between 0.2 and 0.3 percent. With the standby gasoline tax, were it to be enacted, the rate of inflation would be augmented by approximately one-half of 1 percent.

But the true issue with regard to economics, Mr. Chairman, will not be the immediate and relatively small consequences of beginning to make an adjustment to a future in which our supplies of oil will fail. The true economic consequences will flow from our failure to take action.

If we fail to take action now to begin to adjust the capital stock of the United States, our homes, our factories, our automobiles, so that they become less dependent on oil and our technologies can shift in another direction, then we will be in serious trouble in the middle 1980's. We will face the situation that Senator Roth projected of rapidly rising unemployment, similar to what occurred after 1973; of a rate of inflation that begins to escalate as a result of bidding by industrial nations and the LDC's for a limited supply of oil; and we will face the severe balance-of-payments problems to which you referred.

Unless we get control of our importation of oil, we face a serious balance-of-payments problem. Our out payments in that period could reach \$150 billion to \$175 billion a year. Needless to say, Mr. Chairman, even the United States does not have the financial resources to deal with that problem.

So we must begin to act now before we face that problem. That is the objective of the administration's plan. That is a necessity in our Democratic society, to have appropriate foresight and vision for a future set of problems and make the adjustment now. The means that we have suggested are very clear. They rely, in part, upon conservation and fuel efficiency which will maintain our standard of living and will permit a steady expansion of the economy, both production and jobs. That is axiomatic in the President's plan.

In addition, we plan a switch to abundant fuels, notably coal in the short run, so that increasingly scarce supplies of liquids will be available for the transportation market, for which there is no substitute. For stationary sources increasingly the U.S. industry should be becoming dependent upon the supplies of coal.

Mr. Chairman, the heart of this program, in a sense, lies before this committee. It has been approved, in large measure, by the House of Representatives. In accordance with the Constitution, measures originating in the House of Representatives then go to the Senate for review. We have a whole set of tax measures which are being proposed which will make this adjustment to a period of stringency in the 1980's so that the United States can weather what will be a very severe economic adjustment.

I will not go over all of the measures at this point. The tax credit measures for solar, for insulation, for business investment, Conservation devices, and cogeneration devices have all received widespread approval.

May I say in passing, Mr. Chairman, that the President's plan includes 113 proposals, of which virtually all the legislative proposals were enacted by the House of Representatives. There are something like 106 or 107 parts of the plan which are virtually noncontroversial. Most of the controversy has focused on two or three of the tax measures which we referred to and to pricing with regards to oil and gas. That is the heart of this dispute.

Before this committee will rest certain measures which have generated controversy. I will deal with three of them.

First the gas guzzler tax. That tax, in our judgment, should be strengthened to apply more effectively, and sooner, to automobiles that are more fuel inefficient than the national targets.

Second, the wellhead equalization tax. This tax is designed to end two things: a situation in which the United States has continuously subsidized the importation of foreign oil. Mr. Chairman, I think that we can all agree that the road to energy independence, or even a higher degree of independence, cannot be achieved as long as we subsidize the importation of foreign oil. We have done this in recent years by rolling in foreign oil at the world oil price and mixing it with lower price domestic crude.

The tax will eliminate that. It will also eliminate government regulation. It will permit the refineries in the United States to base a single price for oil and allow us to eliminate the entitlements program which becomes increasingly hard to administer and increasingly unfair in its effects.

If we wish to cease what we have done in the past, which is to subsidize foreign oil imports and to establish a mechanism for regulation which is ineffective, we should proceed with the wellhead equalization tax. That tax accepts the general price levels as established by the U.S. Congress in EPCA and arranges the difference between the price of old oil and upper tier oil to go to the U.S. Treasury.

It will result in a considerable inflow of revenue to the Treasury, virtually all of which will be distributed through rebates to American citizens.

The only alternative is to allow the world oil price to be applied to the receipts of America's major and independent oil companies so that they will not only be basing a monopolistic price, but be the principal beneficiaries of monopolistic profits. That is not a situation which we would prefer.

We have arranged that all new oil discoveries in the United States come in at the world oil price, \$13.50 a barrel. That is a generous price. It is generous by the estimates of the industry; it is generous by world-wide standards.

In the past, the industry has estimated that at a price of something on the order of \$5.50 or \$6 a barrel in 1973 prices, we could achieve energy independence. Regrettably, those industry estimates proved to be wrong.

We want to generate as much new production as we can achieve. Mr. Chairman. That is the reason for compensating those who are vigorously engaged in exploration with the world oil price.

On a worldwide standard, Mr. Chairman, the returns to the producers will be substantial. In the Middle East, for example, the returns to producers are something on the order of 20 to 25 cents per barrel as a fee for lifting oil. In the North Sea, the British Government taxes the production of the producers at \$7 a barrel so that the wellhead price will be half of what we have in the United States, and that is the most comparable number you can obtain.

Generally speaking, the returns offered to producers exceed those elsewhere in the world by an order of magnitude of tenfold, or fifteenfold, to what is obtained elsewhere in the world. This is very generous treatment designed to encourage exploration.

Unfortunately, there has been a reaction on the part of the industry to the effect that, indeed, that is a substantial return, but we want more. We want to have substantial inventory profits on all of the existing inventories. No productive purpose is served by that. Mr. Chairman, and in addition, it would result in a massive shift of income and wealth that would be inequitable and thus not in accordance with the desire of the President to have a plan that is based upon equity.

Mr. Chairman, the third measure that I shall discuss and that you mentioned in your opening remarks, is the question of production. There is emphasis upon conservation, but there is no immediate penalty. All that we are attempting to do is to reduce the rate of growth of energy usage in the United States from a historic 4 percent to 2 percent or less, a relatively modest squeeze, giving vast opportunities for increased fuel efficiency in the American economy.

By 1985, energy consumption in the United States will only be some 4 percent less than will have otherwise been projected without this plan.

By contrast, Mr. Chairman, the plan calls for a 33-percent rise in the domestic output of energy. That is based on the desire of the administration to eliminate a large number of entanglements that have in the past prevented effective moves toward the production of energy.

This is most obvious, I think, in the case of nuclear power. The administration will shortly present a bill to the Congress which will eliminate much of the delay involved in the licensing process. It is also obvious in the case of coal production. We project an increase to something on the order of a billion and a quarter tons of coal in 1985 from the present 650 million tons, a vast increase in production and use.

We shall take those steps that are necessary in order to achieve that goal, including the exercise of the due diligence provisions with regard to those companies now holding leaseholds in the West.

The issue of production incentives, as everybody understood, comes down, I think, to the question of oil and gas prices. With regards to gas prices, we have raised rapidly in recent years the compensation offered to the companies. Some few years ago, the price limit in the interstate market for natural gas was 13 cents per MCF. The administration's proposal is \$1.75 per MCF, an increase of fifteenfold in the interstate market in 8 years' time.

It is 7 times the 26 cents limits that existed at the time, for example, that I was at the Atomic Energy Commission. It was only 1 year ago that the producers were insisting that only \$1 would provide them with ample incentives.

All producers to whom I have talked have indicated that \$1.75 is a good price and they will make a substantial sum of money for shallow deposits. In addition to that, the President's proposal is to provide stability for this industry by having that cap trace the upper movement of the Btu equivalent of domestic crude, so that the industry looks to a steady increase in prices as the crude oil price in the United States changes.

This provides substantial profits, a high rate of return, and assurance of steady growth in both prices and production—once again, a very generous incentive.

If we look at the price of \$1.75, we note, as I indicated, that it is vastly in excess of those prices which have historically prevailed in the interstate market, but it is also historically high in relation to the intrastate market.

In Louisiana, for example, Mr. Chairman, the intrastate price of natural gas did not reach \$1.75 until last winter during what was a substantial natural gas shortage in the United States.

Just recently, the June statistics of the Federal Power Commission shows \$1.74 per MCF for contracts in the intrastate market overall.

So we have a gap which will prevent sudden explosions of price which will be devastating to the economy.

Particularly devastating, may I say, Mr. Chairman, to those gas dependent, producer States, and I think most particularly of all, the State of Texas, which has widespread most-favored-nation clauses and redetermination clauses.

During last winter, in a free market, the price of gas per MCF would have gone to \$5.50 or thereabouts. That would have set the State of Texas on its ear. It would have also done considerable damage in the State of Louisiana. In order to protect the users in these kinds of States from what is a very imbalanced market, we have set a cap which is a high cap, and we have arranged for a gradual transition to higher prices that will not be devastating to the economy.

In addition to that, Mr. Chairman, as you know there are certain high cost forms of gas. There are the tight formations in the West; there are deep formations in Oklahoma. There are the geopressurized domes in Louisiana and Texas. There is devonian shale in Ohio. That cannot be brought in at \$1.75.

In order to provide an inducement to an expansion of these non-conventional sources of gas, we plan to decontrol those prices so that those sources whose cost of production is above the projected price for shallow deposits will also come in to augment our national gas supply.

Through these measures in the gas market and in the oil market, we are providing what has been historically and worldwide, very generous standards in order to maintain our production of oil and gas. But we should not, Mr. Chairman, be deceived about the longer term process.

The Geological Survey indicates that the present level of proven reserves in the United States results in 31 billion barrels of oil. The Geological Survey also estimates that there is a potential for an additional 82 billion barrels, based upon the 50-50 expectancy that that might be there. That would have dwarfed the proven existing reserves.

But even if all of those barrels of oil could be found and recovered,

the total would be about 120 billion barrels of oil. At the current rate of consumption in the United States, if we were to rely on that as our source of supply, we would exhaust all of it—if it could be found, recovered and produced—in a brief period of time, in some 18 years.

In projecting oil consumption and expansion at the historical rate, we would exhaust that in something like 12 years, so we face, regrettably, a condition in which we cannot continue on what has been our growing oil dependency for a long period of time.

The gas situation is, of course, somewhat more promising, but at 20 trillion cubic feet a year, we would have a gas supply from conventional sources, even if all potential undiscovered sources that the Geological Survey estimates would be brought in, for something on the order of 25 years.

As you indicated, Mr. Chairman, we must begin to make the adjustment. We must have the appropriate foresight and vision to see the problem that our society will face in a few years time. We must make that adjustment before the day of grace ends.

Consequently, Mr. Chairman, we must do this in a way that is fair, which provides an equality of sacrifice, sacrifice that implies an abandonment of what has been our casual, spendthrift ways of the past and a growing consciousness about energy problems.

On the decisions of this committee depends the well-being of future generations of our children and grandchildren. The time to act, Mr. Chairman, is now; with the assistance of this committee, we can act now.

Thank you, sir.

The CHAIRMAN. Thank you, Mr. Secretary.

In line with our traditional "Early Bird Rule" here, Senator Packwood was the first Senator present, I believe.

I call on Senator Packwood.

I suggest we each take 10 minutes on the first round, and after that we will take a longer time.

Senator PACKWOOD. Mr. Secretary, I talked with you 1 night about 10 days ago about the theory that Barry Commoner has that there is enough oil in this country to simply skip us by coal and nuclear and go straight through solar or some other renewable resource. I know what your response to that is.

I am curious, first about the production side. I will go to conservation later, but I'm interested in your reaction to the GAO statement of July 25, 1977 that under the policy that you are recommending the return to the producer is going to be \$13 billion less by 1985 than even under the present law.

Is that an accurate statement?

Secretary SCHLESINGER. No, sir.

The return to producers, which now runs about 35 percent on exploration and production should increase under this program. As I just indicated, they will be receiving \$13.50 per barrel of oil. That is the world price of oil. No other producers anywhere else in the world obtain anything like that price.

Senator PACKWOOD. GAO says that under the administration's plan for new oil they are going to receive \$11.28.

Secretary SCHLESINGER. No, sir, that is not the plan.

Senator PACKWOOD. What is the GAO referring to in this report? You must be familiar with it, July 25, 1977 evaluation of the National Energy Plan.

Secretary SCHLESINGER. I am not sure to what the GAO is referring. As we have indicated from the first, we are prepared to provide the higher price in order to bring about vigorous exploration, particularly of new frontier oil, to bring in what we have.

That \$11.28 price is the present upper tier price.

Senator PACKWOOD. Is the present what?

Secretary SCHLESINGER. Upper tier price.

That is below—

Senator PACKWOOD. Let me read this into the record. "Maximum allowable prices to producers in 1985, by category under existing policy and administration plan"—by that, they are referring to the present administration's plan—GAO Report, July 25, 1977, this is what the GAO concludes:

The result of these changes is that no category of oil will command a higher price under the plan than under existing policy. Hence, there is no additional financial motive for producers to increase their exploration and development activities. Moreover, according to an administration estimate, lower prices for most of the oil to be produced between now and 1985 will cut producer's revenues in 1985 by almost \$13 billion in 1977 dollars relative to a continuation of existing policy.

This, in turn, will presumably reduce their profits and ability to attract new capital and finance additional exploration. Therefore the plan not only keeps them sending for new production at current levels, but therefore reduces producers' financial ability to increase their efforts to produce more oil.

Is that statement wrong?

Secretary SCHLESINGER. Yes. Let me point out the major error that occurs from reading that particular paragraph. It is true that at the present time, stripper oil commands the world price of \$13.50. We plan that new finds, new inventories, and frontier oil, will also obtain that world price. The price will go to the world price, no higher than it presently exists for stripper oils. It is certainly higher than the existing set of prices.

With regard to the question of the financial capacity of the oil industry, let me indicate profits have doubled in these last 4 years. All the major companies recognize that they are awash in cash flow. They are unable to place that cash into exploration.

They will have additional cash.

At the present time, one sees a stream of investments going off to the purchase of Montgomery Ward or the Irvine Ranch, or what have you, simply because of the stream of cash flow and the unavailability of additional sources of supply to investment.

The Secretary of the Interior has posted a new schedule for the leasing of the Outer Continental Shelf. The problems of the oil companies is not a problem of cash flow.

Senator PACKWOOD. This GAO statement is not talking about the profits or cash flow.

Secretary SCHLESINGER. Yes; it is talking about cash flow.

Senator PACKWOOD. No; it is talking about how much return they will get under existing policy as opposed to the administration plan.

I want to know what mistakes the GAO has made in its premise in analyzing the administration's plan to come to the conclusion that it will produce roughly \$13 billion less for the producers.

Secretary SCHLESINGER. Because the GAO, I believe, is assuming expiration of EPCA—

Senator PACKWOOD. The exploration of what?

Secretary SCHLESINGER. EPCA.

Senator PACKWOOD. What is that?

Secretary SCHLESINGER. Energy Policy and Conservation Act of 1975. It is assuming that in accordance with existing policy, the upper tier will go to the world price.

Once again, the \$11.28 tier is a very generous compensation by historical and worldwide standards. It is approximately double what the industry said just a few years ago would bring 85 percent energy independence for the United States.

Under the President's plan, that upper tier oil will continue to escalate in accordance with the GNP deflator to protect the real value of the barrel of oil, but it would not go to the world price.

If you take the President's program on oil and gas together, there is an expansion of revenues of the oil and gas industry relatives to what would otherwise have been the case with the continuation of current policy.

Senator PACKWOOD. Mr. Secretary, I did not understand that.

I want to know about this statement that GAO made in that report, so when I read it, I can check that off as wrong.

Secretary SCHLESINGER. I am not sure. I pointed out it was not accurate to say that there would be no higher incentives. For the oil and gas industry as a whole, there would be a higher volume of cash flow and a higher volume of profits. There would be some reduction on the order of a couple of billion dollars a year compared to what would have happened if the upper tier had been folded into the world price as had been the previous assumption.

Senator PACKWOOD. I am not sure I understand yet. Let me ask you another question.

Under the FEA's study in 1974, then in 1976, there was some presumption about business as usual as opposed to accelerated or optimistic demand.

First, in the administration's program, you are presuming an increase in demand from 37 million barrels a day to 48.3 million barrels a day in 1985. Is that right?

Secretary SCHLESINGER. Yes, sir.

Senator PACKWOOD. Roughly an 11.3 increase.

You are presuming an increase in oil production from 9.7 to 10.6?

Secretary SCHLESINGER. That is right. That is basically the inflow of Alaskan crude.

Senator PACKWOOD. In 1974, an FEA report made the presumption that at \$11 a barrel, oil production could be increased under what they called business as usual theory to 15 million barrels a day under accelerated production to 20 million barrels a day by 1985.

Was that a correct assumption in the 1974 report?

Secretary SCHLESINGER. Obviously not; it was wrong. As a matter of fact, we have a long history of such assumptions.

Senator PACKWOOD. Is there any assumption, possibly correct, other than yours?

Secretary SCHLESINGER. We do not pretend that we have a crystal ball.

Senator PACKWOOD. Whose assumptions are you using?

Secretary SCHLESINGER. The assumptions that we are using are based upon the present projections of the FEA. Let me make clear, however, that if you go back to the 1973 period, we have repeated statements by the Independent Petroleum Association of America, the National Petroleum Council, and the Petroleum Independents that guided the attitudes of the then-Federal Energy Office and the Department of the Treasury. Those statements said, in effect, that we would have all the oil that we would ever want at \$5.30 a barrel, or \$6 a barrel, or, in the case of the IPAA which was on the high side, \$6.50 a barrel.

Indeed, we have had much higher prices and we have seen a steady diminution in the flow of oil. It is obvious, therefore, that whatever one might say about our present projections, those projections clearly are wrong.

Senator PACKWOOD. Let us take your present projections. This is the 1976 FEA report made this year during this administration. They presume business as usual premise to \$16 a barrel by 1985 will produce 16.1 million barrels of oil a day production, up from 9.7 to 16.1 at \$16 per barrel. This is your current projection, is that right?

Secretary SCHLESINGER. Yes.

Senator PACKWOOD. What I was intrigued with, I have asked them for the accelerated production. We have always had business as usual, and accelerated.

I asked my staff to call the FEA. What I discovered is the FEA was directed by this administration not to make any accelerated production shifts, to only make business as usual projections for 1985.

One, is that true?

Two, can I get a current FEA accelerated production on the presumption of \$16 a barrel?

Secretary SCHLESINGER. The answer to the first question is, I do not know. You might ask Mr. O'Leary, who is here.

The answer to the second question is you will have to tell us what you mean by accelerated production. Let me emphasize, however, that 16 million barrels per day is a very substantial flow of oil, almost 5 billion barrels a year, one-sixth of our present proven reserves.

No one in history has been able to produce oil with so low a level of proven reserves.

Senator PACKWOOD. All I am saying is that the FEA says in the report dated 1977, based on 1976 statistics, at \$16 a barrel, we can produce 16.1 million barrels a day in 1985.

Secretary SCHLESINGER. That is the national energy outlook that was projected by the Ford administration. I think you recognize that, Mr. Packwood.

Senator PACKWOOD. This is 1977.

Secretary SCHLESINGER. That is the NEO produced by the outgoing Ford administration.

Senator PACKWOOD. Let me ask you one last question, then I will yield.

Secretary SCHLESINGER. If anyone can demonstrate how we are going to get this additional flow, given the present state of proven reserves and the expectations of a geological survey, I would like to know. We are introducing and producing as much oil as we can.

Merely maintaining 11 million barrels a day is going to be hard work for all of us.

Senator PACKWOOD. I will yield.

The CHAIRMAN. Senator Talmadge?

Secretary SCHLESINGER. May I add one other word, Senator Packwood?

You cited the FEA and GAO. Let me cite one other aspect of the GAO report.

They estimated our estimates of production were too high.

Senator TALMADGE. Mr. Secretary, it seems to me under the circumstances that confront this Nation at the present time, we must do a combination of things to deal with our energy program.

First and foremost is to step up exploration. Second, conservation. Third, develop every alternative source of energy that we possibly can, particularly coal, which we have in such abundant reserves.

You do agree with that statement?

Secretary SCHLESINGER. Yes, sir, absolutely.

Senator TALMADGE. The only thing in the administration program to increase exploration, as I see it, is No. 1, let the price of new natural gas rise to \$1.75 for 1,000 cubic feet. Is that correct?

Secretary SCHLESINGER. On the gas side. On the oil side—

Senator TALMADGE. On the oil side, it would let new oil rise to the world price.

Secretary SCHLESINGER. To the world price, yes, sir.

Senator TALMADGE. What are we doing about drilling wells on the Outer Continental Shelf? Is that under your jurisdiction, or under the Secretary of the Interior?

Secretary SCHLESINGER. Under the Secretary of the Interior.

Senator TALMADGE. Is any effort being made to step that up?

Secretary SCHLESINGER. I believe the Secretary has published a new lease schedule.

Senator TALMADGE. I recall Secretary Morton, if I remember correctly, took several years to make up his mind on one, whether he would permit the Alaskan pipeline to be built and then finally after he made up his mind, then the environmentalists tied it up for several years. Is that a fair statement?

Secretary SCHLESINGER. I think it was tied up before Secretary Morton arrived, starting in 1969, sir.

Senator TALMADGE. Tied up while he was trying to make up his mind?

Secretary SCHLESINGER. I think the tieup on that line extended over several Secretaries of the Interior.

Senator TALMADGE. I have read in a number of publications that the Japanese, as I recall, can get a nuclear plant onstream in about one-third the time it takes the United States, which I believe is 11 years. Is that a fair statement?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Why the delay in getting our nuclear plans onstream in this time?

Secretary SCHLESINGER. Because of a combination of licensing delays and problems in construction which we plan to alleviate or solve by legislation that we will present to the Hill on approximately September 2d.

Senator TALMADGE. Will this come under your jurisdiction?

Secretary SCHLESINGER. The legislation would apply to the licensing processes as applied by the Nuclear Regulatory Commission.

Senator TALMADGE. Does that come under the Department of Energy, which you now head?

Secretary SCHLESINGER. The actual licensing would be handled by the NRC, not by the Department of Energy.

Senator TALMADGE. Do you think you can aid in cutting the redtape in that regard?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. I feel confident that you can. I hope that you will, because it seems to me that while we bewail the energy crisis, which I think most Americans now realize is real, we do everything we can in an effort to correct it.

It seems to me that the utilization of coal, plus nuclear plants, are for us the best possible alternative for reducing our dependence on the Middle East?

Secretary SCHLESINGER. Yes, sir, that lies at the heart of the President's program.

Senator TALMADGE. In reference to the increased use of coal, I believe there are a series of taxes and rebates that require certain industries, such as utilities and those who use fuel in the boilers, wherever feasible and practical to convert to coal. Is that not correct?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Is the tax penalty imposed on them if they do not convert?

Secretary SCHLESINGER. That is correct.

Senator TALMADGE. Is there any insurance that that coal will be available? I hear that while we have plenty of coal reserves that the increased production of coal is developing at a snail's pace. Is that correct?

Secretary SCHLESINGER. The demand for coal has been growing modestly. We hope that the demand for coal will grow much more rapidly in the years ahead, and that the production will be there to match it.

Senator TALMADGE. Is the production of coal increasing as rapidly as demand?

Secretary SCHLESINGER. Yes, sir. We have not been supply limited with regard to coal; we have been demand limited.

Senator TALMADGE. What are we doing, in the way of research or otherwise, to gasify and liquefy coal as the Germans did very effectively during World War II?

Secretary SCHLESINGER. We have many research projects underway. We are looking at the possibility of a commercial plant for gasifying coal. With regard to liquefying coal, that tends to be a very high cost at \$30 a barrel. We do not believe that that is necessary to introduce commercially as yet, if we can use coal in less costly forms, either burning it directly or burning it through conversion to gas.

Senator TALMADGE. If I understand you correctly, the liquefaction of coal is about \$30 a barrel?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. In the liquefaction of coal, is the cost still \$30 a barrel?

Secretary SCHLESINGER. A very high cost.

Senator TALMADGE. Are they reducing it any?

Secretary SCHLESINGER. I will check on that, Senator Talmadge.

Senator TALMADGE. Would additional research enable us to reduce the cost?

Secretary SCHLESINGER. We are working on the research.

Senator TALMADGE. How about the comparative costs of the gasification of coal at \$1.75 per thousand cubic foot?

Secretary SCHLESINGER. The estimate for that is that it will come in at \$3.50.

Senator TALMADGE. Are not some of the utilities now, with no Government subsidy, gasifying coal and selling it commercially?

Secretary SCHLESINGER. No, sir. I do not believe that there are such utilities.

Senator TALMADGE. They are not mixing it with natural gas and selling it?

Secretary SCHLESINGER. Not from coal, no, sir. From naphtha.

Senator TALMADGE. In other words, the cost of gasification of coal would be approximately almost twice what the administration policy is on the price of coal?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Is there any research that has been done now to reduce the cost of gasification of coal?

Secretary SCHLESINGER. There is very extensive research going on, on that issue.

Senator TALMADGE. To what extent is solar energy commercially feasible, compared to the cost of petroleum, gas, or other alternatives?

Secretary SCHLESINGER. Solar energy is marginal with regard to solar hot water heating, and to some extent for solar heating and cooling. One of the purposes of this legislation will make that relatively attractive to business firms and to residences who use those techniques that can be made commercial. Solar electric is in the more distant future.

Senator TALMADGE. How about geothermal energy? Is that competitive in certain areas of the country?

Secretary SCHLESINGER. Geothermal, I believe, will become competitive in California in the near future.

Senator TALMADGE. Is that being developed?

Secretary SCHLESINGER. That is being worked on. One of the proposals here is that you apply the same intangible drilling costs deduction to geothermal as we apply to oil and gas.

Senator TALMADGE. I believe one of the proposals is to raise the tax, the wellhead tax of petroleum, to make it equivalent to the world rate. How much would that be per barrel?

Secretary SCHLESINGER. For old oil, that is now \$5.25, so that tax would amount to something on the order of \$8 a barrel.

For upper tier oil which is \$11.28, it will go to \$2 a barrel.

Senator TALMADGE. What will that break down to in refining gasoline that will be available to customers?

Secretary SCHLESINGER. 5 to 7 cents is the estimate.

Senator TALMADGE. 5 to 7 cents.

On these rebates, how do you expect to handle them?

Secretary SCHLESINGER. The Treasury will estimate each year the amounts of money that will come in and will include a direct reduction, or tax credit, for each individual based upon his per capita share of the total take.

Senator TALMADGE. Take where I live. I am 25 miles south of Atlanta. Virtually all of my neighbors are blue collar workers. They work in Atlanta for Delta Airlines, Eastern Airlines, automotive assembly plants and various jobs of that type.

They already have to travel—there is no other means of transportation except by automobile—they already have to travel anywhere from 50 to 75 miles a day to get to and from their job. Many people in America travel 100 miles or more round trip to get to and from their jobs.

Do you propose to rebate gasoline taxes to those people who have no other alternative except to travel by automobile?

Secretary SCHLESINGER. The proposal on the gasoline tax, like that of the wellhead tax, is to rebate it on a per capita basis rather than on the use of the automobile.

Senator TALMADGE. On a per capita basis, regardless of whether they travel by automobile and pay the tax or not?

Secretary SCHLESINGER. Yes, sir; that is correct.

Senator TALMADGE. In other words, you propose to make the rebate to a citizen who does not own an automobile, even if he spends nothing for gasoline while some of these other citizens spend a substantial portion of their income for gas.

Why would you rebate a citizen who does not own an automobile his pro rata share of that particular tax?

Secretary SCHLESINGER. The purpose of this is to provide a disincentive for those who use energy extensively and—

Senator TALMADGE. He is not using energy extensively. He sits home. He does nothing except rock in his rocking chair.

Secretary SCHLESINGER. The receipts of that tax should be generally distributed to the American citizens; my proposal has been on the basis of per capita return.

Senator TALMADGE. This rebate would be to every citizen, per capita?

Secretary SCHLESINGER. Yes.

Senator TALMADGE. Would that include infant babes?

Secretary SCHLESINGER. Yes; anybody for whom a tax exemption is drawn.

Senator TALMADGE. In other words, if I had a wife and five children ages one through seven, we would get seven different rebates in the Talmadge family?

Secretary SCHLESINGER. Seven times the average rebate.

Senator TALMADGE. Would that not be a pretty complicated and complex way of handling it?

Secretary SCHLESINGER. No; you would just handle it on the income tax the way you have always handled such exemptions.

Senator TALMADGE. You have read some of these articles in the Wall Street Journal that if prices are sufficient we would have enough energy to last us for a thousand years?

Secretary SCHLESINGER. I have not read those articles carefully. They seem to me to be based on smoking pot.

Senator TALMADGE. Have you also read some of the articles where some geologist, either in Texas or Louisiana, say that there is plenty of methane gas in the Gulf of Mexico that would last us for hundreds of years?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Is that an accurate statement or an inaccurate one?

Secretary SCHLESINGER. There are the geopressurized domes to which I referred in my colloquy with the chairman. Those are in Texas and Louisiana. ERDA has sunk its first successful well; the return of methane was excellent.

We intend to continue to use Federal funds for the development of that process, and we also have indicated plans to decontrol.

If indeed the technology proves out, and we hope it will, that should be a substantial addition to the supplies of gas.

Senator PACKWOOD. Would the Senator yield?

Senator TALMADGE. I yield.

Senator PACKWOOD. I would like to read an exchange between Mr. O'Leary and myself in a hearing on June 20 before this committee:

Senator PACKWOOD. You, I presume, from what you say, at a price there is no energy shortage in this country?

Mr. O'LEARY. Absolutely true, Senator. I have described the present difficulties of the United States and the world as a stupidity crisis, not a resource crisis.

Senator PACKWOOD. We have almost unlimited oil of one form or another at a price?

Mr. O'LEARY. Indeed. The difference that characterizes coal versus oil is that coal is a mite cheaper, prospectively.

* * * * *

Mr. O'LEARY. There is no question if the price incentives are there, I am sure we would find enough conventional or nonconventional oil to meet all of our needs.

Secretary SCHLESINGER. I think the reference to nonconventional oil is quite pertinent. Once again, we are working very hard in the Government on tertiary recovery.

Senator PACKWOOD. The point that Senator Talmadge is aiming at, we are not short of energy in this country at a price.

Secretary SCHLESINGER. That is plumb wrong. We are going to run out of oil.

Senator PACKWOOD. O'Leary thinks that with oil, conventional or unconventional oil—

Mr. O'LEARY. That unconventional refers to oil from shale, tar, and coal, not looking at \$13.50 per barrel, but \$30 or \$40 per barrel.

Senator TALMADGE. In that connection, some lobbyist from Texas proposed to me a year or two ago that if the price were right we could bring in gas from northwest Georgia. Can anyone here answer the question?

Secretary SCHLESINGER. Quite possibly, that is the case. I would not expect a substantial amount.

Senator TALMADGE. Suppose you have to go to extreme expenditures to get gas from northwest Georgia or what you referred to in Oklahoma, or methane in the Louisiana or in the Caribbean. Is there any ceiling on that particular gas price?

Secretary SCHLESINGER. At the present time, there is, sir. We indicated that when the Department of Energy comes into existence, it is our intention to decontrol in these high-cost areas to provide the

producers with the certainty they will be able to cover their expenditures with price, insofar as the market is concerned, without the intervention of Government prices.

Senator TALMADGE. The ceiling on that new gas, regardless of its cost, would not be a cap of \$1.65?

Secretary SCHLESINGER. That is correct.

The CHAIRMAN. If I could interrupt, if you decontrol the high-cost Georgia gas, how are you going to get somebody to buy that if the controlled gas is available to him?

Secretary SCHLESINGER. The question is how to augment supplies. At the present time, we have between 25 and 30 trillion cubic feet of demand and about 20 trillion cubic feet of supply.

We will leave it to those who want to go into that area to decide whether indeed that is a profitable return.

At the present time, as indicated earlier, naphtha is being used to generate gas. The price of gas from the North Slope should run something on the order of \$3.50, so we are indeed spending money on that higher cost form of gas because we have a relative shortage.

Senator TALMADGE. We have a 55 mile an hour speed limit law. Everything I get on that expressway and reduce my speed to 55 miles, I feel like I am backing up.

Would the enforcement of that law come under your jurisdiction and your administration?

Secretary SCHLESINGER. No, sir, that is a part of the authority of the Department of Transportation. The law permits that the Secretary of Transportation cut off highway funds in the event that a State does not effectively enforce that law.

There has not been much eagerness on the part of the State to have that particular incentive applied.

Senator TALMADGE. Have you had any discussions with Secretary Adams in that regard?

Secretary SCHLESINGER. Secretary Adams is a strong believer in the 55 miles per hour law.

Senator TALMADGE. What does he propose to do to enforce it?

Secretary SCHLESINGER. I will let him reveal it at the appropriate time.

Senator TALMADGE. It is understood that both of you work for the same Government, do you not?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Thank you, Mr. Secretary. I have no further questions.

Secretary SCHLESINGER. Mr. Chairman, this question of incentives has been going around some, so I would like to introduce into the record a recent article from Forbes Magazine which says:

Go get it fellows. There is a lot more oil and gas waiting to be found in the United States. For all the moaning and groaning you have heard, President Carter's energy program gives oilmen powerful incentives to find it.

It goes on to a discussion of these incentives. It says:

You would never realize all of this in reading most accounts of the energy program, which tend to put a gloomy interpretation on the program's incentive aspects. You would never realize it, either, from reading the public pronouncements of most oilmen. But do not be deceived. Privately, many oilmen will concede for new oil, at least, the program contains strong incentives.

Why, then, is the industry crying poor mouth? In large part, because it knows too well its open approval would amount to a kiss of death.

The rest of the article is also interesting.
[The article referred to follows:]

[From Forbes Magazine, June 1, 1977]

GO GET IT, FELLOWS!

There's a lot more oil and gas waiting to be found in the U.S. For all the moaning and groaning you've heard, President Carter's energy program does give oilmen powerful incentives to find it.

Many businessmen were disappointed that President Carter's energy program did not permit the price of domestic oil to rise to world levels. But it is wrong to conclude, therefore, that the program does not contain any worthwhile incentives for finding oil and gas. The program does contain a very major incentive: The price of newly discovered oil would be allowed to float up toward world prices. This is a hefty incentive indeed. The world price at present is \$13.50 a barrel, while under present laws and regulations "new" U.S. oil brings only \$11.28. The extra \$2.22 ought to make a great deal of difference toward producing the new oil and gas the Administration privately concedes the U.S. needs for the rest of the century.

Natural gas? There are incentives here, too. "New" new gas would be price controlled at \$1.75 per thousand cubic feet. This is less than new gas produced in Texas sells for in Texas these days (intrastate gas would be brought under the same ceilings as interstate gas under the Carter program). But it is considerably more than gas sells for elsewhere in the nation today. The new price makes the interstate market attractive and assures drillers—who have to see \$1 per mcf before they'll even think about drilling these days—that the price trend for gas is up in the U.S.

You would never realize all this from reading most accounts of the energy program, which tend to put a gloomy interpretation on the program's incentive aspects. You would never realize it, either, from reading the public pronouncements of most oilmen. But don't be deceived. Privately, many oilmen will concede that—for new oil at least—the program contains strong incentives. Why, then, is the industry crying poor mouth? In large part, because it knows too well that its open approval would amount to a kiss of death.

The world market price for oil, which would be adjusted continually for domestic inflation, is the kind of money and policy that is likely to bring about an increase in new-field exploratory drilling. This kind of drilling has been declining since 1974, according to Petroleum Information, Houston's influential statistical service. PI points out that while 25,794 oil and gas wells were drilled last year, the number of them that were in new fields—attempting to establish new reserves—fell 8%, to 6,289.

There is more drilling going on in the U.S. today than at any time in almost 20 years, but the trend has been toward repumping more from reservoirs that were not payworthy when oil was much cheaper. This kind of drilling does not add to proven reserves.

The Carter program means to shift the emphasis to true exploration. If the program—or the pricing part of it—gets through Congress, the way is clear economically for drillers to go deeper into the Gulf of Mexico and to the frontier areas on the U.S. outer continental shelf.

It costs between \$6 and \$8—from lease purchase through production—to bring in a barrel of new oil in the U.S. today. At \$11.28, the more difficult parts of the game may not be worth the risk; at \$13.50, indexed to inflation, they may well be. Oilmen privately concede the price is an incentive. Energy Secretary James Schlesinger is certain: "The oil companies can make more money in the United States than anywhere else in the world" he says. After all, the Georges Bank off Massachusetts is no tougher or riskier than Britain's North Sea.

Is the oil there for the finding? A good deal certainly is. The U.S. Geological Survey estimates that, at a statistical mean, there are 82 billion barrels of undiscovered recoverable reserves of oil in the U.S. That dwarfs the current 39 million barrels of proven reserves. The Geological Survey also estimates that 484 trillion cubic feet of natural gas remain to be discovered—roughly equal to the

total U.S. gas production to date. Exxon is a little more conservative in its estimates of attainable new reserves, preferring 63 billion barrels of oil and about 287 trillion cubic feet of gas. Shell Oil, on the other hand, is a bit more optimistic than the Geological Survey. It is a choice of riches.

And the oil companies have the cash flow ready and waiting to plunge into a new round of exploration. Exxon alone is running a cash flow of more than \$4 billion a year; Mobil, Texaco and Standard of Indiana are each at \$1.5 billion. The North Sea and North Slope are producing, beginning to return the investments made in them by the oil companies since the mid- to late-Sixties. The costly Alaska pipeline will begin throwing off cash rather than swallowing it. The industry's capital and exploration budget for this year runs to \$30 billion, estimates Dallas authoritative Energy Management Report. In 1973, before the oil price rise, it stood at \$9 billion. The oil companies want to put it into exploration in the U.S. because geologically its attractiveness is second only to the Persian Gulf, and politically there is no place as attractive.

Frederick Z. Mills, the respected oil services and equipment analyst of Rotan Mosle Inc., has just taken a look backward and forward. He notes that 1958 was the last time the major oil companies plowed back as great a percentage of their wellhead revenues for drilling in the U.S. as did the independent producers.

There began a long decline in real terms and the majors began in a big way to shift their exploration overseas and to put their investments into refining, transport and marketing and into diversification, importantly to chemicals. But now wellhead revenues in the U.S. are rising again, and Mills sees the majors putting more of their rising revenues into U.S. drilling, not just this year, or next, but out to 1990.

Last year the oil industry pumped up \$1.1 billion for leases in the Baltimore Canyon off New Jersey. That nothing has happened off the New Jersey coast to date is not the industry's fault, but is due to a court battle in which environmental groups and the Long Island counties of Nassau and Suffolk are trying to prevent development, preferring to get their oil and gas from offshore Galveston if not offshore Saudi Arabia.

About the only thing, then, that could prevent a vast new drilling and exploration boom is environmental politics. But Interior Secretary Cecil Andrus, himself a noted environmentalist, has just committed the nation to about the fullest possible development of the areas offshore, where our potential reserves lie. There will be a lease sale in the Gulf of Mexico this month, in Alaska's Cook Inlet in October and off Massachusetts in November. Next year will see three additional sales in the Gulf of Mexico and two more in Atlantic waters. Besides these, Andrus promises more to come in Alaska and offshore before 1980.

Andrus noted the "critical need" to develop U.S. oil and gas resources in announcing his lease schedule May 17. He is under no illusions about how long it will take to shift the U.S. energy base. Like Carter, Andrus sees conservation and conversion to coal alleviating U.S. dependence on foreign oil in the long run. "But we have to produce more oil and gas in the short range—or we have to buy more foreign crude, and I'm not in favor of that." That is why Andrus is opposing the environmentalists in the Baltimore Canyon case: He wants to get U.S. exploration off the dime.

Some complications may be added by the pending amendments to the Outer Continental Shelf Act of 1963, which the Congress takes up this summer. The worst effect of the amendments proposed for the OCS Act is that they would lengthen the time between lease sale and production of oil by two years—to nine years from seven. Under some clauses supported by Senator Henry M. Jackson of Washington, the government itself would hire a drilling contractor to go out on the shelf and drill a few to see what is there. The oil industry sees in this the shadow of the national oil company they suspect the Washington bureaucracy dreams about.

Don't be surprised, therefore, if the oil industry continues to meet roadblocks. But the problem is not lack of incentive. At \$13.50 a barrel, there is all the incentive any oilman would want to go out and search for oil in the hard and risky places.

The CHAIRMAN. First, let me say that I agree in general with what has been suggested in this bill with regard to conservation. My only criticism is that you ought to do a little more, and I propose that we do more.

I would move more in your direction than the House did with regard to the gas guzzler tax, among other things. I do find myself, however, at odds with you to the extent that you seem to feel that the free enterprise system in this area offers so little hope.

I would just like to look first at the question of whether we have enough energy resources in this country. How much do you estimate the western shale reserves could produce if we had to rely on them? What is your estimate? How long could shale carry our Nation if we had to use it?

Mr. O'LEARY. It is about a trillion barrels. It would take us a very long time to use that up and in the meantime we would have chewed up the Colorado plateau in getting to it.

The CHAIRMAN. I understand that it would cost money; you would have to chew up some rock to get it. I understand that.

How long would that provide this Nation with its energy needs?

Mr. O'LEARY. Some hundreds of years.

The CHAIRMAN. Although we are not producing a barrel of oil now for experimental purposes, I have been hearing similar testimony for 25 years by people before committees on which I have served.

Secretary SCHLESINGER. We are getting oil from experimental purposes.

The CHAIRMAN. Are we producing any commercially?

All right. I have been hearing testimony around here for years from people in the oil industry who have been buying shale reserves, including former Senator Milliken from Colorado. He thought enough of it to invest his own private money in shale because he felt sure that new production would come on.

The testimony from the oil companies went something like this: That if the price were somewhat higher, as the price of oil went higher, that shale would be commercially feasible. Companies would then be mining that shale and making energy. So far, they are not producing any.

As far as we know, we can produce shale oil, can we not? That is energy we could use?

Secretary SCHLESINGER. Yes, sir.

The estimated cost would be, \$18 to \$20 per barrel, sort of the standard figure, Occidental believes it can bring in shale oil at \$10 to \$12 a barrel.

The CHAIRMAN. I am thinking about what I can advise my constituents. Twenty years from now, we will not have any energy. Our children will have to deal with that. I am thinking in terms of whether we will have energy.

How long do you think that the known coal reserves would last us if we had to rely solely on coal?

Secretary SCHLESINGER. That depends on your assumptions about the growth of demand.

The CHAIRMAN. I am thinking about the case in which we did not have anything else—say, if we were like West Germany and we did not have anything but coal to turn to. How long would it last us?

Secretary SCHLESINGER. A couple of hundred years.

The CHAIRMAN. That is if we were supplying all our energy needs with coal?

Secretary SCHLESINGER. Essentially all.

The CHAIRMAN. If we did not have any oil or any gas to take care of our needs, you say a couple of hundred years just with our coal?

Secretary SCHLESINGER. Yes, sir.

The CHAIRMAN. You add that to the shale and you have about 400 years of reserves right there, it would appear to me. Now, we have so far thought so little about methane gas, between 17,000 and 25,000 feet deep in Louisiana and over in east Texas. Nobody has even given much thought to it.

People tell me it could last us 100 years. Is that a fair estimate?

Secretary SCHLESINGER. Yes.

The CHAIRMAN. That is 500 years, just in those three items. Furthermore, if you bring that methane gas up, it will come out in hot salt pressure per square inch, and 450 degrees Fahrenheit. Is that your estimate?

Secretary SCHLESINGER. Yes, sir.

The CHAIRMAN. If it were that hot, you could use the heat for industrial purposes. You could use it both for heating and use it for your air-conditioning as a byproduct of the methane gas that you produce from it.

Furthermore, you could put a turbine on top and generate a lot of electricity from the pressure down below.

The thing that impresses me about that is that heat when you go down 5 miles into the earth and you encounter a sand zone down there, with those kinds of temperatures even after that gas pressure is gone—it might be gone in 10, 15 years or 20—you could still push water down there. You could push down ordinary water and bring it back up at 450 degrees Fahrenheit temperature because of the heat of the Earth, I would think.

The inside of the Earth is just a molten mass. After you get down about 5 miles into the Earth, you are tapping that molten mass. That is expensive heat.

Secretary SCHLESINGER. We hope it may be cheap heat, Mr. Chairman.

The CHAIRMAN. You hope to make it cheap some day. I have high hopes that in energy development that you will bring that on, and we will have a tremendous energy source.

Incidentally, if we could use that source, that it is an inexhaustible source, is it not?

Secretary SCHLESINGER. Yes, sir.

The CHAIRMAN. If you drill about 5 miles deep, you just push water down into it and it comes up steam, with the result you are tapping the heat of the Earth. Is that an inexhaustible source, more or less?

Secretary SCHLESINGER. Yes, sir, the hot rock experiment was successfully concluded by the Los Alamos Laboratory, we are delighted to report.

The CHAIRMAN. I am satisfied, Mr. Secretary, that anything they are doing now will look like it was made in a creamer compared to what they will do 20 years from now. We are just now dealing with the potential of solar, but I just watched a television program explaining the tremendous progress made in that area, far beyond what anybody estimated, in bringing on solar. The progress is tremendous.

Frankly, we have tremendous potential for solar that we are just talking about now. But if we are worried about running out of energy, it seems to me that the breakthroughs that we will make, plus atomic energy, are such that we do not have to worry about running out of energy.

What we will have to concern ourselves with is that the very cheap energy is behind us. It is going to cost more in the foreseeable future to produce it, but the cheap part is gone. There is plenty of energy and there always will be, it seems to me. It is just not going to be cheap.

It is obnoxious to pay a high price for something, but I do think that we ought to take a look at the fact that the free enterprise system does seem to work.

A while back with the worldwide shortage of sugar, we were paying as much as 70 cents a pound for sugar. If we had not been so busy rolling back the price of oil, I would have thought we would have done something about the price of sugar at that time.

But what happened? Everybody who made money rushed out and bought himself more equipment, expanded, and put more land into production hoping it would last for awhile. Farmers increased sugar production by 20 percent, as did everybody else around the world, and the price is now below 10 cents. They are now telling us they are all going to go broke if we do not save them.

That is how the free enterprise system is supposed to work.

When somebody makes a lot of money, he thinks "Gee, this is a great thing. I think I will put more into it." The profit he makes he plows back, and anybody who is looking for something to invest in puts money into it, and the first thing you know, there is a surplus of production. Then the price goes way down. It gets so low that competitors are squeezed out of business.

I would hope that in looking at what the alternatives are, we will be talking in terms of not only conserving energy. I am with you on that; I applaud it. I will try to go a mile beyond what the House did.

It seems to me that we ought to press to produce more. That is an area in which from my point of view, the bill leaves something to be desired.

My bell rang on me Mr. Secretary. It is your turn to answer. I will not respond at this point.

Secretary SCHLESINGER. Mr. Chairman, I am delighted with what you say. I agree with virtually the entirety of what you say.

In the first place, we should underscore repeatedly that we are dealing with a transition period in which the world runs out of what has been the preferred source of energy, oil and gas. That does not mean that there will not be energy in the long run.

The new technologies to which you refer are, indeed, promising. We cannot absorb the fruits of those technologies until we have demonstrated them.

Of the three sources you mentioned, the President's program does move toward the use of coal. We would hope, indeed, to make a use of nuclear power, shale oil, and geopressurized brine; shale oil and geopressurized brine depend on these new technologies that are not here.

Indeed, we intend to use—we trust the free enterprise system. That is what lies behind all of the proposals which lie before your commit-

tee, to give the appropriate price signals so that we begin to move through this period of transition.

We do not think that the Government is capable this kind of central direction of the economy and therefore, we provide appropriate signals to which the enterprise system can respond. I am hopeful that as soon as the current contretemps is over regarding oil and gas pricing that the oil and gas industry will turn its powerful talents to the search for new oil and gas rather than the fruitless arguments about the speculative profits to be made in the existing inventories.

We have, indeed, relied on the free enterprise system. The price of shale oil will be the world price of oil. As the price rises, there should be substantial opportunities to increase our production. Because of environmental problems, it is estimated that that production will probably remain at about 2 million or 3 million barrels a day for the foreseeable future.

We are very hopeful about geopressurized brine. That is why ERDA has been sinking wells in those areas, but there are some very severe technical problems as the brine emerges. It is highly corrosive.

What kind of mechanical equipment can be designed to stand up against the corrosive effects of the brine?

In addition, one has to deal with the caustic problems represented by hundreds of millions of barrels of brine a day. We do not know whether we should pump it back down into the ground. There has been some preliminary, sensitive discussion about putting this into the Gulf of Mexico.

But these technologies have to be in place before we can actually use them.

In the period up to 1985, we are not going to get a substantial amount of additional resources from unproved technologies.

The CHAIRMAN. Senator Roth?

Senator ROTH. Mr. Secretary, in my opening remarks I talked about a ripoff of the middle class, which I think is pretty touchy language. Secretary SCHLESINGER. It is also inaccurate, Mr. Senator.

Senator ROTH. Very candidly, if I understand the administration's proposal, that is exactly the impact that it has.

For example, if we look at the energy program No. 6 that we put out by the Ways and Means Committee, economic and budget considerations, it shows that the increased change in tax liability for those between \$10,000 and \$30,000 income is over \$7 billion.

I maintain that that is a substantial amount of money. According to this schedule, the people making \$10,000 to \$15,000 will be paying in additional direct and indirect energy taxes something like \$2 billion. For the \$15,000 to \$20,000, it goes up to \$2.2 billion. For \$20,000 to \$30,000 it goes up to \$2.5 billion.

We recently had the Department of Labor come out with a study showing that a family of four earning \$20,000 in a major city has a minimum standard of living, with very few luxuries.

We are proposing, by 1985, that those earning not \$20,000, but \$10,000 to \$15,000, pay an additional \$2 billion a year.

In the case of those earning less than \$5,000, they come out much better. Those under \$5,000 will be getting additional income in the way of rebate, and I guess other credits, of \$786 million, if I understand these figures.

What bothers me, Mr. Secretary, in a way it seems to me what we have here is not really a conservation program but what I would call an income transfer program. We are raising something like \$18 billion by 1980, nearly \$19 billion in additional taxes on individuals, both direct and indirect.

We are rebating roughly \$9 billion of that money.

Secretary SCHLESINGER. Most of the moneys you refer to come from the wellhead equalization tax. The first issues that must be decided are whether or not the price of oil should go to the world price level, whether it should only be new exploration or oil oil, whether indeed the United States will accept that high world oil price as established by OPEC.

If indeed, and I infer from your opening remarks about production that you would prefer to move to that world oil price, there is a very simple issue to be resolved: Who will be the beneficiary. The transfer to which you refer, if it is applicable, is from the potential gains of the oil companies to the generality of American citizens.

Senator ROTII. You are putting words in my mouth, Mr. Secretary.

I feel very strongly that if you are going to ask people to pay additional taxes, they will be willing to do so if they feel that these additional taxes are going to be used to solve the energy crisis. But a lot of them are going to be very concerned when they see that a major part of the additional cost to them—and it is indirect as well as direct taxes—is going to be used for the purpose of rebates to other people.

Let me go one step further to point out that the fellow earning \$10,000 to \$15,000 will also have to pay additional taxes because of increased inflation. If I understand these charts—and I do not guarantee that I do—but on page 12 of this same folder, we see in the first 3 years some economic analysts saying that the Consumer Price Index will be an additional 3 percent.

For example, Data Resources says there will be a 3-percent impact; Wharton, a total of 1.6; Chase, 1.8. The administration says 1.1; CBO says 1.6.

I wonder, Mr. Secretary, if you have any figures showing what will happen to the income, figuring both inflation and additional taxes, say to a family of \$10,000, \$15,000, \$20,000?

Secretary SCHLESINGER. We have that data and we can insert that in the record.

Senator ROTII. I would appreciate it if it would be inserted.

[The following material was submitted by the Department of Energy:]

A. The Federal Energy Administration has done an analysis of the effects of the National Energy Plan in 1985 on direct household energy expenditures by average households within different income classes. The analysis was done on the basis of constant 1975 dollars. Therefore, the results shown in the attached tables do not show the effects of inflation on either disposable income or energy expenditures.

Our analysis of the effects of the Plan on direct consumer energy expenditures indicates that the Plan would not discriminate against any income group in terms of the net effect of the program as a percent of real disposable income. The program appears to be slightly progressive. Other analyses of the Plan's impact on consumers, and particularly that done by the Congressional Budget Office, are in general agreement with this conclusion.

As shown in Table I, the effects of the program on home fuel bills vary somewhat by income group. An average household in the less than \$6000 income group would experience a reduction in the cost of home fuels of about \$60 in 1985, compared to its fuel bill if the program were not implemented. That same household would receive a rebate from the crude oil equalization tax of about \$35. Thus, that household's savings in fuel bills plus the rebate would be about \$100, or about 3 percent of its disposable income.

An average household in a higher income group would experience a greater savings in absolute dollar terms than the lower income household. However, higher income households tend to spend much more on both home fuels and gasoline. The savings on home fuels to the higher income households due to the President's proposal would represent about the same proportion of their fuel expenditures, a reduction of about 11 percent.

An average household with a real disposable income of \$24,000 to \$30,000 would spend about \$90 less on home fuels under the program. This average household would also receive a larger rebate, about \$80, than the lower income household, since the average higher income household has more persons. However, the net direct effects of the program, that is the savings in fuel bills, plus the per capita rebates to the higher income family, would represent a smaller proportion of disposable income, about .5 percent.

With regard to gasoline expenditures, our analysis indicates that implementation of the President's proposals would result in no measurable difference in average household expenditures for gasoline, assuming the gasoline consumption targets were met and the standby gasoline tax were not triggered. Although the crude oil equalization tax would result in, higher gasoline prices, by 1985 the increased price effects would be offset by the reduction in gasoline consumption due to more efficient automobiles.

Table II shows the direct effects of the standby gasoline tax and rebate on the average household by income class. Table III shows the combined net direct effects of the NEP including the standby gasoline tax on household income.

In summary, our analysis shows that the net direct effects of the NEP with or without the gasoline tax or rebate on real disposable income is likely to be positive for average households in all income groups, and likely to be slightly progressive. However, part or all of this positive effect may be offset by the indirect, or inflationary, effects of the program.

NATIONAL ENERGY PLAN

TABLE I.—AVERAGE DIRECT IMPACT ON HOME FUELS EXPENDITURES PER HOUSEHOLD IN 1985

[1975 dollars]

Income class	Home fuels expenditures—		Wellhead oil tax rebate	Net effect on income of President's program	Net effect as percent of disposable income ^a
	Without the President's program	With the President's program ¹			
Under \$6,000.....	\$591	\$533	\$36	+ \$94	+ 3.1
\$6,000 to \$12,099.....	663	592	55	+126	+1.4
\$12,100 to \$18,199.....	742	664	70	+148	+1.0
\$18,200 to \$24,299 ²	787	702	80	+165	+ .8
\$24,300 to \$30,299.....	833	742	82	+173	+ .6
\$30,300 and over.....	872	775	85	+182	NA

¹ Includes home heating oil rebata.

² Percentages calculated on the basis of the midpoint of each income class.

^a Average household falls within this income group.

Source: FEA household energy expenditures model.

TABLE 2.—AVERAGE DIRECT IMPACT OF GASOLINE TAX AND REBATE PER HOUSEHOLD IN 1965
[1975 dollars]

Income class	Gasoline expenditures—			Gasoline rebate per household	Net effect on income of gasoline tax and rebate per average household	Net effect as percent of disposable income ¹
	President's program without gasoline tax	President's program with gasoline tax	Increase in expenditures from gasoline tax			
Under \$6,000.....	\$190	\$253	\$63	\$163	+\$100	+3.3
\$6,000 to \$12,099.....	521	686	174	247	+73	+8
\$12,100 to \$18,199.....	735	985	250	316	+66	+4
\$18,200 to \$24,199 ²	950	1,283	323	357	+34	+2
\$24,200 to \$30,299.....	997	1,332	335	368	+33	+1
\$30,300 and over.....	1,032	1,379	347	379	+32	NA

¹ Percentages calculated on the basis of the midpoint of each income class.

² Average household falls within this income group.

Source: FEA household energy expenditures model.

TABLE 3.—AVERAGE DIRECT IMPACT ON HOUSEHOLD INCOME IN 1985
[1975 dollars]

Income class	Total fuel expenditures—		Rebates from wellhead tax and gasoline tax	Net effect on income of President's program with rebates	Net effect as percent of disposable income ¹
	Without the President's program	With the President's program ¹			
Under \$6,000.....	\$781	\$786	\$199	+\$194	+6.5
\$6,000 to \$12,099.....	1,184	1,287	302	+199	+2.2
\$12,100 to \$18,199.....	1,477	1,649	396	+214	+1.4
\$18,200 to \$24,199 ²	1,747	1,985	437	+199	+9
\$24,200 to \$30,299.....	1,830	2,074	450	+206	+8
\$30,300 and over.....	1,904	2,154	464	+214	NA

¹ Includes home heating oil rebate.

² Percentages calculated on the basis of the midpoint of each income class.

³ Average household falls within this income group.

Source: FEA household energy expenditures model.

TABLE 4.—PROJECTED 1985 HOUSEHOLDS AND PERSONS BY INCOME GROUP

Income (1975 dollars)	Average household size (persons)	Number of households (thousands)	Number of persons (millions) ¹	Percent of population
Less than \$6,000.....	1.55	20,925	32.4	14.09
\$6,000 to \$12,099.....	2.35	21,361	50.2	21.82
\$12,100 to \$18,199.....	3.0	18,309	54.9	23.87
\$18,200 to \$24,199.....	3.4	12,991	44.2	19.22
\$24,200 to \$30,299.....	3.5	6,626	23.2	10.09
\$30,300 and over.....	3.6	6,975	25.1	10.91
Bureau of Census national projection (middle series).....	2.64	87,188	230.2	100.00

¹ Does not add due to rounding.

Source: Calculations from Labor Department figures for 1973 adjusted to Bureau of Census' national projection (middle series) for 1985.

HOUSEHOLD ENERGY EXPENDITURE MODEL

GENERAL DESCRIPTION

The Household Energy Expenditure Model (HEEM) is designed to provide analysis of the socio-economic impacts of energy price increases on household energy expenditures generally, and on low-income groups in particular. It is based on an energy data file for a nationally representative sample of approximately 50,000 U.S. households (excluding Alaska, Hawaii, and Puerto Rico.) Given the specified sample size, the model provides no further geographic breakdown than

the nine Census Divisions. Using existing data files, and thus avoiding the cost and delay associated with a large survey, energy expenditures on various energy types—including electricity, natural gas, fuel oil #2 and gasoline—were imputed for each household depending on their usage. The primary data source was the Public Use Sample of the 1970 Census of Population, supplemented by travel information from the Nationwide Personal Transportation Study. The data file thus contains a rich assortment of housing and household information in addition to geographic location and energy expenditures.

Using the Transfer Income Model (TRIM,) the demographic characteristics and population size, unemployment and income, and energy consumption were updated to 1973, and 1973 disposable income was computed for each household by simulating the national tax and transfer system. These 1973 energy expenditures were validated by a comparison with national control totals and the preliminary results of the 1972-1973 Consumer Expenditure Survey of the Bureau of Labor Statistics. A close correspondence was observed, although natural gas expenditures may be overestimated by 15 percent, and gasoline expenditures may be overestimated by 20 percent for households with disposable income above \$15,000.

Energy expenditures in 1974 were estimated on the basis of these 1973 expenditures, the national price increase for each energy type from 1973 to 1974 and the FEA short-run residential price elasticities of demand. Thus it was possible to calculate the first-round, direct effect of energy price increases on household energy expenditures. In a sense, this measure can be interpreted as the tax on income by energy price increases but is only partial in nature. It includes only the effect on direct energy purchases; no account is taken of the indirect purchases of energy by the household. In addition, no estimate is made of the direct effect on the income distribution of higher energy prices by altering the demand for various types of labor and other factors of production. Further, when providing estimates for later years, no attempt is made to adjust the various distributions, i.e. household stock by fuel type, income, employment, etc. to be representative of the projected year of interest. Therefore, it is necessary to assume that these distributions remain constant over time during projection year processing.

Senator ROTH. I am sure you agree with me that whatever the package is, it should be on the basis of equity and fairness. I do not know if you had a chance to read the New Republic last week, or one of the recent issues, where they make the charge that those of us in Washington take care of ourselves.

If I understand the impact of the energy proposals, and I ask you whether this will index Federal programs payments tied to CPI. Part of the rebate money, "includes the effect of the energy proposals on Federal pay and on Federal programs indexed to the cost of living, including social security, civil service, military retirement, food stamps, and the school lunch program."

Now, I am curious. Perhaps it should be done—I am not evaluating it. But it appears from that we will make a Federal employee whole, is that correct, under this indexing program?

Secretary SCHLESINGER. I beg your pardon?

Senator ROTH. We have a total of \$11 billion for rebates. That includes indexing Federal pay and several Federal programs.

Does that, in effect, mean that the Federal employees will be kept whole while those in the private sector will suffer the whims of their employment? What is the purpose of indexing Federal pay?

Secretary SCHLESINGER. I did not pass that legislation. I assume that is an issue that the U.S. Congress will resolve.

Senator ROTH. Mr. Secretary, you are correct in the case of certain Federal programs—I am really not addressing that so much as effect of the energy proposals on increasing Federal pay, which will require future legislation by the Congress.

I am not clear as to what you mean. Will part of that \$11 billion mean that the salary of Cabinet members and Members of Congress will be kept whole?

Secretary SCHLESINGER. I think most of that \$11 billion is for social security.

Senator ROTH. It is not clear. I would appreciate a breakdown on what is meant by indexing Federal program payments tied to the CPI, because it does include Federal pay. The only point that I am making, Mr. Secretary, is that I think we have to be careful if we are asking those in the private sectors to make a sacrifice, that we place ourselves in the same position.

It would appear here that we would intend, and maybe we should, but I guess the whole point of these taxes is to make fuel more expensive so that people use less, is that correct?

Secretary SCHLESINGER. There are two points. One is to provide an inducement to shift to coal or to other abundant resources; and the other point is, through higher prices, particularly in regard to oil, to induce some conservation. Energy prices, aside from oil, hopefully will not rise significantly.

Senator ROTH. If that is the case, on the second point, do you think the \$786 million rebates for incomes under \$5,000 going to create much conservation at that level?

Secretary SCHLESINGER. It depends on the pattern of behavior. If you take the cases to which Senator Talmadge earlier referred, I would think there might be some impact on conservation.

Senator ROTH. Mr. Chairman, my time is up. My concern is that the average American, if he is asked to pay additional costs, both through inflation and taxes, may well be willing to do so, if he feels that these funds are being used to increase energy supply and production. The American people want to see some solutions. They do not want a pessimistic picture, going downhill. They want to see some hope for the future.

What concerns me is that much of the money from the energy program is being used for rebates and income transfer. That really has little relevance in this program. We ought to be considering it, in my judgment, in the welfare reform.

I think, from that standpoint, the program has missed the point.

The CHAIRMAN. Senator Matsunaga?

Senator MATSUNAGA. Thank you, Mr. Chairman.

Mr. Secretary, I am inclined to agree with the chairman that the administration's program seems to lack any real effort toward increasing production. And I am of the view that while conservation, especially of imported oil, is a laudable objective, if we go into the development of alternate sources of energy with the same determination and resolve that we placed a man on the moon—we did that in 8 years—if we can develop solar energy, geothermal energy, wind energy, oceanthermal energy, with that same resolve, I do not think we need to worry about the shortage of energy.

I will give you one example of how we have been able to conserve in Hawaii. I was somewhat disturbed in listening to your statement that solar energy is in the more distant future.

Secretary SCHLESINGER. No, sir, solar electric is. Solar hot water heating and solar heating and cooling are here now.

Senator MATSUNAGA. Fine. Solar heating and cooling. Let's talk about solar heating.

In Hawaii, practically every new home subdivision has solar heating for the purpose of producing hot water. It has been shown that the individual family saves anywhere from 25 percent to 40 percent on its monthly electric bill simply by installing solar water heaters.

If this can be done throughout the country, the savings would be 25 percent to 40 percent. Taking the average of 30 percent savings on electricity, we certainly could save a lot of oil where electricity is produced by oil.

In the area of geothermal research, I wish to commend the administration for going into this area, as it has in Hawaii and California. Here, again, is a great alternate source that definitely could make at least portions of the United States self-sufficient. Hawaii, I am sure, can become self-sufficient with solar energy and geothermal energy, and so can some of the Western States of the Union.

We ought to look into these areas and take up crash programs and even use Hawaii as the base—I say this not because I represent Hawaii, but because it is the reality of the situation that Hawaii can be used as the laboratory of the United States for the development of solar energy and geothermal energy and oceanthermal energy, wind energy, and so on—and if we can prove to the world that solar energy can be developed to a point where the technology can be readily transferred from our country to other countries, I do not think we need to worry about the breeder reactor.

When we talk about France and Germany and Japan going into the development of breeder reactors, if we can show them the feasibility of solar and geothermal technology, that we do not need breeder reactors, then they too, will abandon nuclear energy and make the world a whole lot safer place in which to live.

So we would be accomplishing that objective also.

Now, I do not know when this statement of yours was prepared, Mr. Secretary, but I note that you are still requesting this committee, in the face of what the House did, to preserve the gasoline standby tax. I heard over the radio this morning when I was shaving that the administration had abandoned that tax. The way the radio announcer put it, "insofar as the standby gasoline tax is concerned, the administration has thrown in the towel."

Is this true?

Secretary SCHLESINGER. No, sir.

Senator MATSUNAGA. It is not?

Secretary SCHLESINGER. I refer you to my statement. We trust that we will face up, as a country, to the fact that most of the oil which will be harder to get in the future goes into transportation, much of it through the automobile. We must face that problem somehow.

The standby gasoline tax represents a challenge to the American people to conserve on motor fuel.

Senator MATSUNAGA. I doubt very much, Mr. Secretary, that your position is a realistic one. I doubt very much that the House is going to change its position and I doubt very much that the Senate is going to agree with you on the standby tax.

Secretary SCHLESINGER. The problem is real and I hope we will be realistic about the problem.

Senator MATSUNAGA. The problem is real, but I have family members who work at hours when public transportation does not operate, so that they have to drive a car. You cannot stop people in like position, like circumstances, from driving their cars no matter how much tax you put on gasoline.

You say there is a rebate, but the rebate proposal of yours is a nightmare. I do not know who thought it up, but we can have a situation of one driver in the family with 10 children drawing rebates 11 times the taxes he paid. That is more like a welfare program through the gas tax.

I just cannot see that.

If you take a poll here, I do not see anybody who can agree, anyone would agree with you on your tax rebate proposal; and that would be a good sampling of what the entire Senate will think of it.

So the standby gas tax and the rebate program, as I say, hinge on being a nightmare.

Coming back to production, in response to a question put to you by the chairman relative to shale oil, you said that the shale oil would be selling at about \$18 or \$19 a barrel.

Secretary SCHLESINGER. That is the standard estimate, somewhere in that range.

Senator MATSUNAGA. Yet you said one oil company would be able to produce shale oil at \$12 a barrel. Was that correct?

Secretary SCHLESINGER. That was that company's estimate, which differs from the general reality of estimates.

Senator MATSUNAGA. Why could we not go into that area if, as you estimate, shale oil will provide about 200 years of supply to the United States?

Secretary SCHLESINGER. That is what is being done, Senator. We do not have that technology now. We do not have that supply now.

Senator MATSUNAGA. We do not have the technology?

Secretary SCHLESINGER. That is correct. We do not have the technology that provides the oil at a competitive price in an environmentally acceptable manner.

Senator MATSUNAGA. Would \$12 a barrel be a competitive price with foreign import oil?

Secretary SCHLESINGER. Absolutely. We have encouraged Occidental to go out and take advantage of the opportunities offered by the free enterprise system.

Senator MATSUNAGA. The imported oil now sells for \$15 to \$16?

Secretary SCHLESINGER. Sells for \$13.50 a barrel.

Senator MATSUNAGA. For \$13.50. At \$18 to \$19 a barrel, what would the estimated cost to the consumer be?

Secretary SCHLESINGER. I think that the standard add-on to the burner tip is something on the order of \$4 or \$5 a barrel, so it would come through at \$22 or \$23 transportation cost, distribution cost.

Senator MATSUNAGA. I have one other question relative to tax credit for tax payers to encourage them to insulate their homes, install solar heating units.

There are, as you readily concede, many low-income families who cannot benefit from any tax credit for the reason that they would not be paying taxes on which they could take the credit, yet the conservation program should apply to the poor who could not benefit from tax credits as well as people who are on the tax rolls.

Does the administration have any proposal to encourage those not on the tax rolls to go into solar heating units, et cetera?

Secretary SCHLESINGER. We have weatherization programs for low income groups. There is no supplement for solar units for low income people. There is a weatherization program for insulation, storm windows, storm doors and the like.

Senator MATSUNAGA. I see my time is up, Mr. Chairman.

The CHAIRMAN. Senator Melcher?

Senator MELCHER. Mr. Secretary, there is an old Scotch saying that says two heads are better than one—even if one is a sheep's head. We have seen in your statement today and the answers to the committee a pretty broad input to what you are proposing as energy policy by the administration.

It can assume to be the sheep's head; there are two points on which I've never had a clear response, Mr. Secretary.

After all, oil is a commodity and we are looking at the start of a surplus of crude oil on the west coast, notably California. In the President's energy message that he sent up here in detail, there was a very short insert in shutting in the oil from Elk Hills which alarmed me. I saw no reason for doing so, and Congress seemed to give plenty of authority to the Department of the Navy to build pipelines out of Elk Hills anywhere they needed to delivery the crude to where it could be used.

Is that still the position of the administration that the shut in of Elk Hills oil is imminent?

Secretary SCHLESINGER. No, sir. The President has requested authority to vary the production at Elk Hills. He does not necessarily want to operate it at its peak level.

Senator MELCHER. The act of Congress said that the Navy should reach the maximum efficient rate within a certain length of time, I think it was 18 months or thereabouts, and the maximum efficient rate is at 325,000 barrels a day. If we are going to have any limitation of that, it is a shut in to the extent that it is a limitation.

Secretary SCHLESINGER. The point that I was making is that he is seeking authority to adjust the rate of production. But that does not necessarily mean that the production rate will be adjusted.

Senator MELCHER. I hope that we work our way through the necessary steps to take the oil from California or the west coast and put it where it is needed.

Secretary SCHLESINGER. Yes, sir.

Senator MELCHER. We are still waiting for a response from you on what you think about a bill that 20 of us have put in the Senate, and it has also been introduced in the House, to expedite the Federal permitting for pipelines from the west coast in Long Beach to Midland, Tex. and from Port Angeles, Wash. to Clearbrook, Minn.

This bill only deals with Federal permits. It does not preempt the States and we would hope that by setting the stage for prompt clearance of Federal permits, perhaps the States would do likewise.

What is your position on that?

Secretary SCHLESINGER. As yet we do not have an established position. We agree with the intent of the legislation to permit us to move expeditiously toward a west to east pipeline. At the moment, negotia-

tions continue between SOHIO and the State of California. There are negotiations concerning the ARCO Trans-Mountain project. The Kitomatic line lingers in the wings, depending upon the decision regarding ARCO Trans-Mountain.

I think that we will have to see whether, indeed, these lines materialize without the need for additional legislation. If they fail to do so, we should move in the direction that you suggest.

Senator MELCHER. You did not mention Northern Tier Pipeline. I presume your remarks apply to the Northern Tier Pipeline proposal too?

Secretary SCHLESINGER. Yes, sir. The northern tier is the heart of your proposal.

Senator MELCHER. Mr. Secretary, you stated that we switch to coal in the shortrun—I do not know what you mean by the shortrun. If a plant or school or hospital switches to coal it is not going to be in the shortrun, is it? It is going to be in the longrun.

Secretary SCHLESINGER. Absolutely. All that means is here is a fuel that we can start making more extensive use of in the near term.

Senator MELCHER. The point that you made in the response to Senator Talmadge in particular on what is being done about research and engineering to develop better methods of utilization of an energy source, did not get into the area of magneto hydrodynamics, MHD, which by all appearances result in much greater efficiency. In generating electricity we will get 40 to 50 percent more kilowatts out of each ton of coal. We would not have much problem with air pollution, no sulfur dioxide problems, no nitrous oxide problems, and we would not need much water.

Yet President Ford recommended \$50 million in his budget; President Carter did not seek any more; and Congress responded by putting in \$70 million, which is, after all, quite a small amount into engineering and research for such a promising process.

The blueprints may be drawn for all future generating plants that would be using coal as early as 1983 and 1984.

Is this an oversight on the part of the administration in not coming on more strongly for this method of utilization of coal?

Secretary SCHLESINGER. I hope that we will review that matter. MHD has been around for a long time. Its process has always appeared to be promising.

We had a very brief time to review President Ford's budget. We shall be in the process of assessing what our own judgment is of the prospects of MHD and it will be reflected in the next budget.

Senator MELCHER. I would hope that the administration's process of reviewing these potential sources of increasing our energy potential—after all, if you can get 40 to 50 percent more kilowatts out of a ton of coal through this process, that is conservation of the greatest order.

Secretary SCHLESINGER. The concept has always been very attractive. We would be anxious to prove it.

Senator MELCHER. I would hope that there would be more emphasis on some nearterm solution to problems that are facing us, such as distribution of the glut of oil on the west coast that will occur when Alaskan crude is added to crude available from Elk Hills when it reaches its maximum efficient rate. Oil pipeline construction from the west coast to inland States is essential.

I would hope in the swing to using more coal that you mentioned in your statement, to induce electric utilities and firms to shift from oil and natural gas to coal and other fuels, I think the MHD process seems to be built to order for encouraging electric utilities to use coal. Government does the primary job in research and engineering, and it follows that because there is great potential from savings, not only on the coal itself, but also in air pollution controls, that we can expect private utility companies to switch to coal using the MHD process.

We have heard members of this committee discuss the tax system that you propose which may not be acceptable to Congress but surely these good points which I dwelled on are in my judgment acceptable to Congress, and we could move rather rapidly on that.

Thank you very much, Mr. Chairman.

The CHAIRMAN. On this round, I would like to ask that the timer be set for 15 minutes for each Senator.

Senator Packwood.

Senator PACKWOOD. Mr. Secretary, in the U.S. Geological Survey of crude oil resources in the United States, not tar, not shale, but crude oil, they presumed 62 billion barrels known economic—known. They presumed 50 billion barrels undiscovered, but economic. That is a low estimate; they go a high of 147.

And then on the subeconomic, their low estimate is 164 billion barrels.

What is the administration's presumption of the cost of producing the 164 billion subeconomic barrels?

Secretary SCHLESINGER. I think it comes in at various places, sir.

Senator PACKWOOD. Whose studies did you depend upon to come to your conclusions?

Secretary SCHLESINGER. We have normally used the Geological Survey.

Senator PACKWOOD. What figure did they project, then—I cannot find it in this study—as to the figures they used?

Secretary SCHLESINGER. They do not project any such figure.

Senator PACKWOOD. If you go to 164 billion barrels sitting there, at a price, did the administration make any effort to see what price it would take to bring them in?

Secretary SCHLESINGER. These are, as the survey indicates, very speculative numbers.

Senator PACKWOOD. Then most of the things we are talking about in the future are speculative. Is this simply going to be written off as uneconomic with no effort made to what it would cost to bring it in?

Secretary SCHLESINGER. The administration's judgment is that we are now providing substantial incentives for new exploration far greater than what had been previously anticipated by the industry and to the extent we are dealing with the problem of oil, it should be something on the basis comparable to the world price. As long as that oil is there, the free enterprise system should go out and find it, as long as there is an adequate rate of return.

Senator PACKWOOD. The administration has no presumption as to what that price would be to bring in that oil?

Secretary SCHLESINGER. As I indicated, that is purely speculative on the part of the Geological Survey.

Senator PACKWOOD. The reason I am asking is that we are talking about a significant shift to coal, a significant shift to nuclear, and there are some environmental hazards with either.

I would like to know the comparative costs, if at all obtainable. What is it going to cost to bring coal on line, whether it be by new trends, coal slurry, but what is it going to cost to bring on nuclear power compared to the cost of producing this oil?

If this oil is at all economic to reach, I do not know if it is more or less than shale, we seem to have a projection on it. Of more or less than tar which we seem to have a projection on.

Would it not be wise to use this oil as your intermediate step as a renewable resource rather than going to coal?

Secretary SCHLESINGER. Once again, the price should bring in the kind of oil that will be available.

Senator PACKWOOD. Who's price is it?

Secretary SCHLESINGER. It is \$13.50 at the present time?

Senator PACKWOOD. Should bring in what?

Secretary SCHLESINGER. Should bring in oil whose cost is less than \$13.50 to produce in the future years there will be a rise in the real cost of oil which will make more of these other resources economically attractive.

Senator PACKWOOD. The FEA attempted to make those projections. I take it that you are discounting those FEA projections, the 1974-76 studies which you discounted. They attempted to project what kind of oil you could bring in at \$16 a barrel, \$13 a barrel.

Secretary SCHLESINGER. I am not sure of that. My recollection of the FEA projections is that we could bring in these amounts at something like \$6 a barrel. We are offering twice that number.

Senator PACKWOOD. I am talking about the FEA studies, the ones I asked you about in my opening statement, and you more or less rejected those out of hand. For example, in the 1976 study, where the FEA estimated that \$13 a barrel by 1985, we could be producing on a business as usual production, 14.7 million barrels a day; on an optimistic projection, 19.1 million barrels a day.

Secretary SCHLESINGER. Let us see if they can do that. I am eager to see that occur. The price being offered is \$13.50 a barrel which is higher than the price mentioned there.

You can wait a few years and see whether the 14.5 million barrels a day come in or on the optimistic projection, 19 million barrels. It tends to be inconsistent with the Geological Survey numbers.

Senator PACKWOOD. What is that?

Secretary SCHLESINGER. Those kinds of projections are inconsistent with the Geological Survey estimate.

Senator PACKWOOD. How can they be inconsistent with the USGS figures since you just said you have no dollar projection as to what it will take to bring in those reserves?

Secretary SCHLESINGER. Those estimates which they have given apply to existing and potential reserves amounting to 120 billion barrels.

Senator PACKWOOD. This is what the USGS calls at the moment, the subeconomic?

Secretary SCHLESINGER. As I indicated, if we bring in that 120 billion barrels, which will require many years to do, that the amount of it is just not sufficiently large to handle our oil demands.

Senator PACKWOOD. To handle what?

Secretary SCHLESINGER. The level of oil demands.

Senator PACKWOOD. If you take the entire USGS—this is the low side, not the high side, but the low estimate of 276 million barrels, this is total, not just present production—we have a 42-year use under low estimates. That is total U.S. use, not just what we are now producing.

Secretary SCHLESINGER. Senator, the problem that we have here is that almost every estimate suggests that we are too optimistic in our projections. You cite the NEO. All of the recent estimates, the CBO, all of the industry projections, and the GAO suggest we are being too optimistic. We cannot be both high and low at the same time.

Senator PACKWOOD. I was taking the low estimate of the USGS, not the high estimates. Their high estimates are about 170 billion barrels more.

Secretary SCHLESINGER. Unlike the CBO or GAO, or the Library of Congress, the Geological Survey makes no effort whatsoever to relate speculated resources to the cost of production. For those who are attempting to do that, they have all said that we are on the optimistic side.

Senator PACKWOOD. The FEA tries to relate price to production. In 1974, they estimated and in 1976 again, using different costs, different price per barrel and different production levels. What did the administration use as the source for the addition of 10.6 billion barrels in 1985? On whose figures was the price envisioned in the administration's plan?

Secretary SCHLESINGER. The FEA model.

Senator PACKWOOD. You used the FEA model.

Is there anything wrong with the same model which, at \$13 a barrel would produce 19.9 billion barrels a day in 1985?

Secretary SCHLESINGER. If you look at the FEA/FEO projections over the years, you can ascertain very quickly that they have been wrong.

Senator PACKWOOD. You used them for your 10.6.

Secretary SCHLESINGER. We used the PIES model.

Senator PACKWOOD. You used the same figures under the 1976 study that I am quoting here, and you have come to 10.6 at the dollar figure.

Secretary SCHLESINGER. We will be lucky to get that.

Senator PACKWOOD. That may be a high estimate.

Secretary SCHLESINGER. That is what the CBO, GAO—which I cited before—and the Library of Congress, all suggest.

Senator PACKWOOD. You discounted that GAO study awhile ago that I cited.

Secretary SCHLESINGER. Well, Senator, once again we cannot both be too high and too low at the same time.

Senator PACKWOOD. I would like to know the source documents, then, that the administration used for its projection. Was that the FEA model?

Secretary SCHLESINGER. That is the PIES model.

Senator PACKWOOD. The 1976 model?

Secretary SCHLESINGER. The revised application of that model and, if you would care to, we will go into the assumptions and parameters in that model with you or your staff.

Senator PACKWOOD. Under 10.6 in the PIES model, what did you then presume as the cost of a barrel of oil?

Secretary SCHLESINGER. The administration's program, which goes to \$13.50 for a new barrel of oil.

Senator PACKWOOD. You were discounting the old—the last question I asked, you were discounting the old 1976 study of \$13 producing 19.1 as an optimistic, or 14.7 on a business-as-usual assumption?

Secretary SCHLESINGER. Most visibly so.

Let me underscore again the National Energy Outlook over the years has been ludicrously optimistic. They start off by saying, if we had a price of \$6.50 per barrel that we would be producing 85 percent, roughly, of our domestic demands.

All of those projections have quite visibly gone down the drain. I regret that there is not more oil around at low cost.

These hearings that we have had repeatedly indicates that those projections have been falaciously optimistic.

Senator PACKWOOD. When we come back to the USGS survey, even on the conservative side, you are saying: One, that is too optimistic, or two, it may not be overly optimistic but we do not know what the cost would be of bringing in the subeconomic projections?

Secretary SCHLESINGER. Those are purely speculative resources.

Senator PACKWOOD. What is not speculative?

Secretary SCHLESINGER. Reserves are not speculative.

Senator PACKWOOD. Unproven reserves?

Secretary SCHLESINGER. No, unproven reserves are unspeculative.

Senator PACKWOOD. Even the administration's program is based on speculation. You are not just talking about the present known reserves.

Secretary SCHLESINGER. Yes; the administration's estimates, along with the estimates of the industry are based, on some degree of uncertainty, but they are not based upon pure speculation as are the numbers to which you are now referring.

Senator PACKWOOD. You are saying the USGS is based on pure speculation.

Secretary SCHLESINGER. And so labeled; yes, sir.

Senator PACKWOOD. No further questions, Mr. Chairman.

The CHAIRMAN. Senator Talmadge?

Senator TALMADGE. Mr. Secretary, without reference to the so-called standby tax, which the House has rejected, what would be the total of the new tax of the administration's proposal on energy annually?

Secretary SCHLESINGER. The total receipts from the wellhead tax, oil and gas usage tax, and the like would run about \$22 billion to \$23 billion.

Senator TALMADGE. \$22 billion to to \$23 billion annually?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Does the administration propose to rebate that in its entirety?

Secretary SCHLESINGER. Most of it would indeed be rebated. The wellhead tax would be rebated in its entirety. The oil and gas users tax would be partially rebated. It would all be available to those 1,400 industrial firms that make extensive use of oil and gas as boiler fuel; if they want to switch to coal, they can use whatever they have paid in historically to make that switch.

There will be some \$3 billion to \$5 billion in that oil and gas users tax which would come in from firms that are not attempting to move away from oil and gas, and those would go to the Treasury on balance.

Senator TALMADGE. What is the estimated per capita annual rebate under the administration's proposal?

Secretary SCHLESINGER. The \$48, I think, for the crude oil would be the peak.

Senator TALMADGE. \$48 per capita?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. For a family of four it would be something less than \$200 annually?

Secretary SCHLESINGER. Yes, sir.

Senator TALMADGE. Following up on some questions that Senator Matsunaga asked, you estimated that the cost of production of shale oil out of petroleum somewhere in the vicinity of \$18 to \$20 a barrel?

Secretary SCHLESINGER. That is the standard industrial estimate.

Senator TALMADGE. You further stated that Occidental thought that they could produce shale oil out of petroleum at \$12 a barrel which would be considerably less than the import cost at the present time. What is Occidental doing to produce shale oil and petroleum at the present time, anything?

Secretary SCHLESINGER. I will insert into the record the present status of their planning, but they have planned to build a facility which would produce something on the order of 60,000 barrels a day.

[The following material was submitted by the Department of Energy:]

STATEMENT BY ROBERT J. FERNANDES IN BEHALF OF OCCIDENTAL OIL SHALE, INC.

Mr. Chairman, I am Robert J. Fernandes, President of Occidental Oil Shale Inc. and have been personally involved with Occidental's oil shale activities for the past two years. We are pleased to participate in these hearings to bring you up to date on Occidental's modified in situ oil shale technology.

Senator Haskell, all of us who are interested in establishing an oil shale industry appreciate your efforts in this common purpose. Your current Bill S. 410 attests to your interest in expediting the establishment of an oil shale industry.

It is appropriate that this hearing is being held in Colorado where a significant portion of the U.S. oil shale reserves are located. However, the people of Colorado must be questioning whether an oil shale industry will ever be established. They, as we, have observed the history of false starts in the development of an oil shale industry.

Occidental, however, has continued its development of its proprietary modified in situ oil shale process since 1972 on its Logan Wash properties near DeBeque, Colorado, as well as conducting an active research and development program at its research center in LaVerne, California.

At Logan Wash, Occidental has formed and processed three pilot size retorts, one large commercial size retort, and has recently rubblized a second commercial size retort, which we expect to ignite on or about April 4, 1977. We are also constructing a third commercial size retort. The technology and "know how" that we have developed at Logan Wash, namely, mine and retort designs, environmental control and monitoring procedures, and method of handling oil, water and gas production will be transferable to the Federal C-b Tract, which we will commercially develop with Ashland Oil Inc.

Ashland Oil, Inc., as lessee, and Occidental Oil Shale, Inc., as operator for the C-b Shale Oil Venture partnership, recently filed a Modified Detailed Development Plan (DDP) for the Federal C-b Tract, using Occidental's in situ oil shale technology. We are presenting a copy of this DDP to the Committee for whatever use the Committee desires.

The Modified DDP for the C-b Tract specified a start-up of operations, when the current lease suspension terminates on September 1, 1977, assuming that the required government approvals are obtained. The Ashland-Occidental plan will involve an investment of over \$400 million and will result in a shale oil production of approximately 57,000 barrels per day in 1983. It is Ashland's and Occidental's genuine intention to proceed with the development of the C-b Tract in a prudent businesslike manner.

At this time I would like to call on Robert A. Loucks, Occidental Oil Shale, Inc.'s Vice President of Operations, who is officed in Grand Junction, Colorado, to briefly describe the Modified DDP. Following Mr. Louck's presentation, I will present a few final comments.

A government study shows that raw shale oil produced by the modified in situ process can be sold in a price range of \$8 to \$11 per barrel to yield a 15 percent rate of return. These estimates are generally supported by the Ralph M. Parsons Company's cost estimate contained in a Preliminary Engineering Plan for the Development of the C-6 Tract prepared for Ashland.

As a result of these economics, we are proceeding with the plan for developing the C-b Tract. However, due to this nation's increasing *dependency on and cost* for foreign oil, we feel that development of an oil shale industry, consistent with environmental protection and consideration of the socioeconomic factors, should be expedited.

As you know, Occidental's Chairman, Dr. Armand Hammer has had discussions with the Administration and members of Congress regarding plans to accelerate the establishment of an oil shale industry. At some point in your hearings you may wish to have Dr. Hammer share his thoughts with you and your Committee.

In conclusion, Mr. Chairman, we thank you for this opportunity to appear at this Hearing. We know how important it is for you to have an accurate background and knowledge of the status of our technology in order to help you shape this important legislation on oil shale. We hope that we have imparted to you the feeling that the Occidental modified in situ oil shale technology is environmentally sound and economically viable. We believe this technology can play a major role in developing a new major indigenous source of energy, and will be socially acceptable and economically attractive to Western Colorado.

STATEMENT BY ROBERT A. LOUCKS

The C-b Modified Detailed Development Plan is consistent with the objectives of the Department of Interior Prototype Leasing Program, namely, the development of this tract compatible with environmental and socio-economic requirements, and all technical standards. A two-year environmental baseline study has been recently completed. Interim environmental reports have received a continual intensive review by the Oil Shale Environmental Advisory Panel, and by the Area Oil Shale Supervisor. This environmental work, coupled with the economically viable modified in situ plan set forth in the Modified DDP, should lead to the successful execution of this specific project.

Briefly, the Modified Detailed Development Plan indicates the following activities:

September 1, 1977—Start Construction Activities.

May 1, 1980—Start Initial Retorts of Ancillary Facility.

May 9, 1982—Start Operation of Full-Scale In Situ Plant.

Our process is designed so that there will be minimal emissions into the atmosphere. As you know, there is presently a situation where a few of the ambient air quality standards are exceeded in parts of the Piceance Creek Basin, even though the area is undeveloped. If these standards are adjusted to take cognizance of this fact, we believe we can operate on the C-b Tract.

We have found that by using a small amount of water in the process we can increase shale oil yield. We believe that the increased recovery of shale oil justifies the use of this water.

The rock we mine to gain access to the oil shale will be stored in the gullies on the C-b Tract. There will be no need for off-site disposal. We have conducted experiments in vegetating such mined rock, and will apply this knowledge to maintain this site in as natural a state as possible.

Because our process is underground, there will be no spent shale brought to the surface, and hence any problems which could result from the surface leaching of spent shale will not be present.

One of our objectives is to achieve maximum recovery of the resource in place. We calculate that we will recover approximately 40 percent of the in place oil and will utilize approximately 25 percent of the low Btu product gas. Tests have shown this gas can be burned for the generation of electric power using combustion driven turbines, and thus the remaining produce gas can be used for this purpose. This is an area in which government or utility companies involvement in research can expedite achievement of this objective. We estimate that as much as 400 megawatts of power can be generated for delivery to the surrounding communities.

With full operation there will be about 1,600 permanent employees assumed to be drawn primarily from the local area. During construction there will be a maximum of about 3,000 people. The communities which will absorb this influx are primarily Rifle and Meeker. We are working very closely with the officials of those two communities and have had very harmonious relationships with them. It is our common objective that this impact be to the benefit and not the detriment of the present inhabitants. At your hearing in Rifle on Monday, I believe that you will hear that the local residents feel we are working cooperatively toward a beneficial impact upon the Western Slope.

Senator TALMADGE. Is that now in being, or in the planning stage?

Secretary SCHLESINGER. In planning.

Senator TALMADGE. Are they getting any kind of Government subsidies?

Secretary SCHLESINGER. They are not, at this time.

Senator TALMADGE. Would it not be to our advantage if we could produce shale oil petroleum, even considerably above \$12 a barrel and heavily subsidize it in order to do so by a tax credit or some other arrangement?

The reason I make that statement is this. It is my understanding now that we import 42 billion dollars, worth of petroleum annually and we realize, of course, that we have the largest balance of payments deficit in the history of our country. There is no way on earth that we can earn the exchange to pay for it and that is the primary reason why our dollar is depreciating against the mark, the yen, the Swiss franc and other currencies.

My question is this. Would it not pay us to heavily subsidize a domestic product if we can avoid this terrible lien against our balance of payments?

Secretary SCHLESINGER. That is a good question. We have found to this point that the thing that the industry required was certainty. That it could, indeed, receive the world price.

If the industry could not bring in shale oil at the world price, we certainly should consider this kind of proposal that you suggest.

Senator TALMADGE. I think that anything we can do to overcome this terrible figure of \$42 billion a year which is likely to increase on our unfavorable balances of payments would be to our advantage.

If the Germans could gassify and liquefy gas during World War II to keep their war machines going, it seems to me that the United States would be wise to consider doing that, to keep our dollar from becoming worthless overseas.

Would you not agree?

Secretary SCHLESINGER. It depends upon the amount of subsidy.

Senator TALMADGE. I would agree with that, of course, but if Occidental is anywhere near correct that they can produce petroleum from shale oil cheaper than the world price—assuming they are incorrect, assuming that it is \$16 or even your figure of \$18, would it not be to this

Nation's advantage to subsidize that production of energy rather than being victims of an Arab boycott and blackmail prices that we are having to pay and a \$42 billion a year hemorrhage on our balance of payments?

Secretary SCHLESINGER. The effect of the \$18 a barrel price would be to cost the taxpayer about \$22 billion a year.

Senator TALMADGE. That would be spent in the United States, not in the Middle East. It would not have an unfavorable effect on the balance of payments.

Secretary SCHLESINGER. That is why I say the issue is, if you subsidize certain types of production, that is economic terms the equivalent of a depreciation of the currency and what the precise trade-off should be is a matter of judgment. We can discuss that further.

Senator TALMADGE. Why is South Africa doubling their expansion of production of synthetics from coal? I do not know whether Scotland is increasing their production or not, but I presume it was to protect the value of their currency plus afford an adequate supply domestically, was it not?

Secretary SCHLESINGER. That is correct. South Africa has certain special problems which happily do not apply to the United States.

Senator TALMADGE. I have been reading in the press about the enormous strike that has been made in Mexico of petroleum and also gas. Do you have any idea of the size of that strike?

Secretary SCHLESINGER. The Mexicans have stated, I believe, from certain sources that it is 60 billion barrels.

Senator TALMADGE. Larger than the North Slope?

Secretary SCHLESINGER. Yes, sir.

The present estimate for crude Prudhoe is 10 billion barrels.

Senator TALMADGE. Are there any plans to go forward at the present time to conduct a pipeline from Mexico to add to our gas supply?

Secretary SCHLESINGER. The Mexican Government has signed a letter of intent with certain U.S. gas transmission companies and supply would build up to something on the order of 2 billion cubic feet a day.

Senator TALMADGE. Has any agreement been reached on the price of gas?

Secretary SCHLESINGER. No, sir, none suggested yet.

Senator TALMADGE. Or petroleum?

Secretary SCHLESINGER. None suggested formally. There have been informal suggestions with regard to petroleum. That continues to be a matter of internal discussion within the Mexican Government.

On the gas side, there is a letter of intent.

Senator TALMADGE. Are we importing any petroleum from Mexico now?

Secretary SCHLESINGER. Relatively slight amounts.

Senator TALMADGE. At what price?

Secretary SCHLESINGER. The world price.

Senator TALMADGE. Speaking of alternative sources of energy, I do not know if we have any tar sands in this country. Do we?

Secretary SCHLESINGER. Yes, sir, we have some in Utah.

Senator TALMADGE. In substantial quantity?

Secretary SCHLESINGER. Of much poorer quality than the tar sands in Canada.

Senator TALMADGE. I understand that there was a movement in Canada to develop tar sands there?

Secretary SCHLESINGER. Yes.

Senator TALMADGE. Has that been abandoned?

Secretary SCHLESINGER. It has not been abandoned. Some of the partners have withdrawn and the Canadian Government has come in.

Senator TALMADGE. What is the cost?

Secretary SCHLESINGER. That runs \$20 to \$30 a barrel.

Senator TALMADGE. Considerably more expensive than our shale oil in this country?

Secretary SCHLESINGER. We will have to see what each of them costs, but the estimates certainly are higher.

Senator TALMADGE. I would urge you and the administration to look into the idea of subsidizing production domestically of these alternative sources. It seems from your testimony that I have heard today that probably the least expensive alternative at the moment would be shale oil.

Is that correct?

Secretary SCHLESINGER. It is likely to be.

Senator TALMADGE. I am not referring to nuclear, rather to petroleum products.

Secretary SCHLESINGER. It is likely to be. We do not know enough about it. There is a considerable range of uncertainty.

Senator TALMADGE. It seems to me that if there is a tax incentive program of some type, domestic production would be far preferable than to sending \$42 billion overseas and holding ourselves out as possible victims for a further boycott and have to pay blackmail prices. At the present time, what is the relative cost, energywise, of a nuclear plant compared to importing petroleum at present prices?

Secretary SCHLESINGER. It is very hard to make that comparison. It depends on the efficiency of use of electric power at the source point.

Generally speaking, electric power is more expensive than simply burning either oil or coal, but depending on the mode of use, it can be more effective.

Senator TALMADGE. You are a former Director of the Atomic Energy Commission. I assume you know just as much about that as anybody in the United States.

Would it not be to this country's advantage to enormously step up the development and construction of nuclear plants as an alternative energy source?

Secretary SCHLESINGER. I believe that we should get rid of the barriers that have existed over recent years. We are going to present legislation to the Congress on September 7 to do that.

The question of whether to go coal or nuclear for electric power generation, in our judgment, should be left to the utilities.

Senator TALMADGE. Certainly you and the administration, I presume, are committed then to going forward in both areas as rapidly as possible?

Secretary SCHLESINGER. To remove barriers, to make both nuclear and coal use as cost-effective as possible.

Senator TALMADGE. Thank you, Mr. Secretary. I have no further questions.

The CHAIRMAN. Mr. Secretary, when one is talking about cost of producing energy from some of the other sources, I believe that one tends to overlook the fact that we have a lot of unemployed workers in America today. We cannot very well put them to work in producing more farm products; we have a surplus of those. We have a surplus of shoes and textiles, and of most manufactured goods.

When we increase production, our foreign competitors complain that we are squeezing them out of the market.

But in the area of energy, we are serving the whole free world by producing more. Nobody can quarrel with that.

I would think that nations like West Germany would point a finger of scorn at the United States and say, "you have the capability of producing your own energy and you should be doing it. If we had the capability we would be doing it now."

When we think about the cost of solving the energy problem, I think we should crank into the computer the fact that most of these additional workers would be unemployed otherwise, so that we have a hidden cost savings that I do not think is in the computer.

So far, that feedback has not been worked into the cost; has it?

Secretary SCHLESINGER. No, sir.

I think yours is an excellent point, that we should consider those comparative costs in terms of other expenditures. If we are putting people to work in production of coal or nuclear plants or what have you, that is advantageous.

There is considerable expansion of employment prospective in terms of insulation, of conservation, and of fuel efficiency that will absorb many people from the building trades. It is likely to absorb many people from the unemployed ranks.

The CHAIRMAN. I am for that.

When it comes to bringing on these new sources of energy—let's take shale, a very good example—it is just a step away from what you were testifying about.

As much as we might do something in the research and development area with Government money, my impression is that we will make far more rapid progress if we provide enough subsidy—I do not think it is going to cost us a great deal of money—to get someone into producing, based on current know how.

I think we should pass a law that we will provide whatever subsidy we think necessary to solve the problem.

For example, if we provide a 60 percent subsidy, I think almost any major company, if they look at the large size of the reserves, would go into it. The cost would come down very rapidly. So in due course, all of that shale out there could be something that could be used to meet our needs.

I would like for Mr. O'Leary to tell us what he said on television—I saw it over the weekend—about how the cost of solar has come down.

Would you repeat that, Mr. O'Leary?

Mr. O'LEARY. Yes, Mr. Chairman.

Three years ago, when we were taking a look at what we might expect over time with regard to the production of electricity through solar means, we were saying it would probably take 50 years or thereabouts. It was then about two orders of magnitude, or a factor of 100, away from the crossover with alternative forms of energy.

On the basis of the best data that I can now obtain from ERDA, and these are data about a month old that I derived from Dr. Marvin, you can very confidently project costs for steady state solar electric in a range of \$3,000 to \$4,000 per megawatt rather than the \$50,000 we were projecting just 3 years ago.

That contrasts with about \$1,000 per megawatt electrical from a nuclear plant. So instead of being two orders of magnitude out, we are now out by a factor of two or three. In some locations where you need reliable service but you are remote from the possibility of establishing very large facilities, according to that figure, you might be approaching crossover now.

The CHAIRMAN. The thought that occurs to me, if we can offer enough help in this area, not to do it for the whole country, but do it in the areas where it ought to work the best. With shale, with the solar energy we can produce, and with geothermal, we can make tremendous progress and do it soon, and that, to me, would be a far better investment than just giving this money to middle income people.

I am perfectly willing to give it to the poor who cannot pay the additional cost, but I would rather put it into finding a solution. do I not think the average fellow understands. You tax his money on the one hand and give it back to him on the other hand.

Obviously, we have to deduct the cost of taking it away and then passing it back through to him. I think he would prefer to be left alone to begin with.

I am afraid that imposing a tax and then giving the money back might cause the fellow to say, "I do not have to change my habits after all. All I have to do is take this dole they gave me as a rebate on the energy tax and put it into energy, and I go back where I started from."

If you do that, it has defeated its purpose.

It appeals to me to put enough resources into alternatives to make them work.

For example, if we put enough subsidy into solar energy, we could induce everybody in the country to use solar energy, or everybody below the Mason-Dixon line to go to solar to heat their water. Take areas like the Virgin Islands, Puerto Rico, California and Hawaii—we could put enough into developing wind, solar geothermal energy to make tremendous breakthroughs.

Now, Arizona is anxious to get into solar energy. Louisiana has a fantastic resource that could provide a hundred years of energy that we are doing nothing with. All they are doing right now is bringing a little brine up and testing it somewhat to see what the pressures are and then pushing it back down where it came from, and that sort of thing.

If we approach this as though it were urgent, approach it the way someone would do looking upon this thing as a matter of great concern, we could make a lot more headway and a lot faster than we are right now. I would like to see us in this bill, where we are trying to induce somebody to do something, to increase the tax advantages, or whatever you want to do, to move on and get the job done. Because the longer we take, the worse off we are, it seems to me.

Does that appeal to you, Mr. Secretary?

Mr. SCHLESINGER. I think that the allocation of the receipts of these taxes are, of course, something that the Congress will deliberate. With regard to the geopressurized brine, as I have indicated, we are planning to decontrol that price which would, in effect, double or triple the value to the producer.

We are, at the Federal level, providing some technology. I would like to see the oil industry get further into the development of those technologies and these more attractive prices are likely to bring that about.

One effect of the oil and gas user taxes will be to increase the attractiveness of a large number of alternative technologies. Now going beyond that, in terms of general subsidy for a variety of technologies—coal gasification is one which is normally suggested—it is a question of how much should be distributed.

If we accept Senator Talmadge's suggestion, or your own suggestion, we are thinking then of something on the order of \$20 billion a year of subsidy in order to provide a 50-percent advantage for domestic production over the cost of imported oil; \$20 billion a year would be substantial.

The CHAIRMAN. If you are just talking about the shale oil, I do not think you are talking about anything more than perhaps \$100 million.

If you tell somebody, "If you are going into this thing on a commercial scale, we will give you whatever advantage it takes in order to make a profit on this thing," I think that an up-and-coming company with imaginative executives would jump at the opportunity. Once they found themselves making money, I would think that others would expand production and, in due course, you would cut back on the subsidy.

A lot of people are scared to death that somebody is going to make a profit on some of this. It seems to me we ought to hope that someone will make some money out of it. If they do not, we are going to stay in this mess forever—that is, unless the Government is going to try to do it.

I do not think the Government can do it a bit more efficiently than private industry can do it. Judging by things I have seen the Government do, it is not that good an operator.

As far as the crude oil equalization tax is concerned, would you have any objection, or would you support our phasing in the tax in 2 years instead of 3?

Secretary SCHLESINGER. No, sir.

The CHAIRMAN. It seems to me that if you are going to do something, you might as well do it. I do not see the point in taking forever to get around to doing something. If the public is going to have to pay for something, we might as well face up to it and get it over with, if we think it is our duty.

I am concerned about the heating oil rebate. When it is in full effect, it is going to cost us roughly \$900 million a year as a subsidy for New England. It is true they use more heating oil up there than we do in the Sun Belt and elsewhere in the country, but they have more efficient transportation. They do not use nearly as much for transportation as we do, and not nearly as much money for air conditioning as we do in the Sun Belt.

Taking it all into account, the people in other parts of the country cannot see for their lives why we should provide a \$900 million advan-

tage in this bill for New England, when the costs that they have are offset by costs that we have.

How would you feel about it if the committee should decide to eliminate that part of the rebate and use it to try to produce more energy?

Secretary SCHLESINGER. I would worry about that, Mr. Chairman. I think there are two points that should be made.

First, that we have suggested similar ways of protecting the residential users of natural gas against the abrupt rise in the price of energy and propane. We have also suggested an alteration to the electric power rates to protect the residential consumer against the rise in price.

The second thing is that the cost per million Btu's in New England is three times the cost in the Southwest so that the energy prices that New England has faced at the present time are considerably higher than they are elsewhere in the country.

Therefore, easing this transition in this way strikes us as appropriate.

The CHAIRMAN. One other point, Mr. Secretary. Are we, in all cases, paying the producer a price that is adequate to permit him to replace that which he is producing?

In other words, if you look at the old prices on oil and old prices on gas and assuming we want that producer to go out and find more oil and find more gas, are we providing him enough income that would meet the average cost of finding another 1,000 cubic feet of gas or another barrel of oil as he produces what he has? I am talking about the old oil prices and the old gas prices.

Secretary SCHLESINGER. It is more of a problem, I think, for old gas than it is for old oil. To the extent that there is primarily old or old oil, the cost of proving up an additional barrel of oil would exceed the producers' receipts.

The CHAIRMAN. It seems to me that if we could say to a producer—there are contract problems—that we will permit him to produce, we will permit him to charge a price that will enable him to go out and find another barrel of oil or another 1,000 cubic feet of gas, provided that he spends it on exploration, that would be justified, in view of the fact that it is going to cost more to make this Nation energy self-sufficient.

I think anyone who would take whatever he is receiving as an additional price and would put that money into producing more energy would be helping us in what we are trying to do.

There is more than one way of regulating prices. If you are regulating railroads, you can regulate prices on the basis of cost. Oftentimes the costs were increased many years ago and prices have gone up since that time. Alternatively, you can regulate it based on the cost of replacement.

If a producer is permitted to get the cost of replacing what he is selling and if he will use the revenues to replace it, it seems to me that that would be to the advantage of the industry and to our program.

I hope that we will consider that concept in working on this bill and hope that you find some appeal to that approach.

Secretary SCHLESINGER. We find it appealing as the rate of activity continues to expand in oil and gas, the number of drill rigs in opera-

tion have increased something like 130 percent in recent years. We hope that expansion continues.

The basic question is, what rate of expansion can be effectively achieved by this industry.

The CHAIRMAN. Mr. Secretary, if the States controlled offshore lands and if there is gas out in the Atlantic Ocean, and we seem to think that there is, there would be tremendous production out there today.

I hear people talking about the fragile environment out there, but that is virtually the same environment as in the Labrador current and the gulf stream. Companies are drilling up in Canada trying to find oil or gas in the Atlantic, and we are drilling in the gulf. They are the same ocean currents.

They are drilling in the North Atlantic, the North Sea. That is a part of the same general body of ocean.

The President went out to look at an off-shore oil rig. It is a magnificent piece of equipment, and they are losing money with it. I discovered that they are required to make sealed bids in order to win drilling contracts.

That rig was built with the hope of drilling in the Atlantic. It is a beautiful piece of equipment. Frankly, I never saw anything so well kept. I always expect to see some oil smears around here and there—but of course, they had not found any oil out there yet.

The President is an old Navy man. The President asked, "do they always keep this place so clean?" and they said, "yes, sir, every time the President of the United States comes onboard it is always this clean."

When the company bid on this, they knew they were going to lose money to win the lease. They were just trying to hold down their losses. They had the equipment onhand and were paying all the interest expense on the investment and the maintenance costs, and so they just bid to lose money to go out there to reduce what they otherwise would have lost.

We ought to be building all of the equipment like that that we can build. We ought to be putting it to use.

Someone told me that oil companies drilled about 300 wells in the North Sea before they made the first big discovery out there, and so I would think that we ought to be thinking in terms of developing offshore resources. If we find something out there, it ought to be cost-competitive to what we are producing in the Gulf of Mexico, which is one of our big frontiers.

I would hope that we would make those breakthroughs. The people who built that equipment and the people who operate that kind of equipment tell me that the laws that have been enacted since this energy crisis hit have all had one thing in common, that they had placed more impediments in the way of producing more energy—more delays, more environmental concerns, more red tape.

As much as I am concerned about the pristine purity of the Atlantic Ocean, is the same water that flows through the Gulf of Mexico, the same water in the North Sea. Even in Louisiana, where we have been producing oil for 30 years, we have tremendously improved our techniques to prevent oil spills and any sort of pollution, or at least to hold it to it to a minimum. We had some spills down there, in earlier years.

There is no permanent damage to the environment. The precautions taken now are tenfold of what they were taking 10 years ago. We should find some way to start drilling as quickly as we can to see if we have oil and gas resources in the Atlantic.

What are your thoughts about that?

Secretary SCHLESINGER. In general, I agree with what you have suggested. I think that we ought to be exploiting at the rapid rate. The case that you have cited with regard to Baltimore Canyon, of course, was bought by a private group and it was decided in the Federal courts.

I am not sure if those offshore lands were under the jurisdiction of the States, given the attitude of many elements of the population in the Northeastern States, that the drilling would proceed any more expeditiously than under Federal control.

The CHAIRMAN. Mr. Secretary, when Louisiana went offshore, they saw the prospect of making money. They were bringing in huge amounts of money even before they discovered oil, just on the bonus bids. They saw those royalty receipts and they saw those tax receipts. They saw those payments, they saw big surpluses in their State budget, and you could not keep the legislature, or the Governor, or anybody else from saying "let's go" and "move ahead."

If anyone had any environmental concerns they would say yes, that is fine, it would be looked into; but they went ahead with the exploration. And I think if Louisiana, prior to the time they started producing offshore, had been confronted with the same obstacles that there are for drilling on the east coast, they would never have begun.

You see it in the case of oil tankers. Now and then a drop of oil spills out on the water. If that gets on you, you use kerosene or something on it to remove it. It is a nuisance, if at all.

People complain about it. When they look at big trucks cracking up the highways and all the inconvenience of having to provide services to the offshore industry such as educating more children, providing them police protection, and that kind of thing, States tend to wonder why they should cooperate with offshore drilling if there is nothing in it for them, nothing but the prospect that there might be a spill or something of that sort?

The problem you are running into is something that I could have predicted. You do not see the same thing in Louisiana because there are so many jobs that depend on it. If you hold up drilling in Louisiana, everybody complains, even though we do not get any revenues from beyond the 3-mile limit. Everybody wants to help offshore drilling because jobs are dependent on it. Thousands of jobs depend on it.

But people on the Atlantic seaboard have not committed themselves to that. They do not experience the same pressures.

I am not pressing that point at the moment except to say that there is every reason that dictates, from the Federal point of view, that we should produce in the Atlantic and in the gulf. It is the same problem. I cannot see any difference.

Can you tell me any difference, as far as the overall problem is concerned, in the ecology or anything else with drilling in the gulf as compared with drilling in the Atlantic?

Secretary SCHLESINGER. No, sir. We heartily agree with you that we should have exploratory drilling in the Atlantic.

The CHAIRMAN. I hope that we will be getting on with offshore drilling in the Atlantic as soon as possible, because we want the competition and because the Nation needs the energy.

Senator Matsunaga?

Senator MATSUNAGA. Thank you, Mr. Chairman.

I have been told that the current oil entitlement program has proven very beneficial to small independent oil refineries. This Government program is something I have not fully understood. Could you explain the program, as briefly as you can, and tell us what the present administration intends to do about the oil entitlement program?

Secretary SCHLESINGER. The purpose of the administration is to see ultimately that each refiner is faced with a uniform price for crude. That creates, as you indicate, some problem with regard to small refineries which have not been efficient but which have been lured into production through a variety of incentives.

For a year or two, we will be faced with this situation, depending on whether someone goes on with the 3-year phaseout or 2-year phaseout, as the chairman suggested, but we would retain a considerable margin for these small refineries.

The longer term policy for these small refineries will result from our discussions with the Congress, and that will have to take place during the next 2 years.

Senator MATSUNAGA. I see that it is 12:40 now. I have other questions, but I will postpone them for a later time.

I want to take this opportunity to congratulate you, Mr. Secretary, on your appointment and on the greased lightning speed of your confirmation.

Secretary SCHLESINGER. Thank you, sir.

I thank you for your help in that regard.

The CHAIRMAN. Are there any further questions, gentlemen?

Thank you very much for your statement, and your thoughtful questions.

At the hearing in June, Mr. O'Leary was asked for some information. We have not yet received those figures, Mr. O'Leary.

Mr. O'LEARY. Thank you.

The CHAIRMAN. The committee will be in recess until 10 o'clock tomorrow morning.

[The prepared statement of Secretary Schlesinger follows:]

PREPARED TESTIMONY OF JAMES R. SCHLESINGER, SECRETARY OF ENERGY

Mr. Chairman and members of the committee, I am very pleased to be here today to discuss with you the tax provisions of the proposed National Energy Act.

The diagnosis of the U.S. energy problem is very simple: Demand for energy is increasing, while the available domestic supplies of oil and natural gas have been declining. The U.S. has met this greater demand with increasing reliance on imports, adding to vulnerability to supply interruptions.

The principal oil-exporting countries will have severe difficulties in supplying all the increases in demand expected to occur in the U.S. and other countries throughout the 1980's. In 1976, the 13 OPEC countries exported 29 million barrels of oil per day. If world demand for exported oil continues to grow at the rates of recent years, by 1985 it might reach as much as 50 million barrels per day. However, many OPEC countries cannot significantly expand production; and, in some, production will actually decline. Thus, as a practical matter, overall OPEC pro-

duction could approach the expected level of world demand only if Saudi Arabia greatly increased its oil production. Even if Saudi Arabia did so, the highest level of OPEC-production probably would be inadequate to meet increasing demand beyond the late 1980's or early 1990's.

The National Energy Act would establish six ambitious goals for the American people to be achieved by 1985:

To reduce the rate of growth of energy consumption to below 2 percent per year;

To reduce oil imports to less than 6 million barrels per day;

To reduce gasoline consumption by 10 percent below the current level;

To improve the energy efficiency of 90 percent of residential buildings, schools and hospitals;

To increase coal production to at least 400 million tons above 1976 production levels;

To use solar energy in more than 2½ million homes.

These goals are established to deal with three overriding objectives. As an immediate objective that will become even more important in the future, the U.S. should reduce dependence on foreign oil and vulnerability to supply interruptions. In the medium term, the U.S. should keep imports sufficiently low to weather the period during the 1980's when world oil production approaches its capability limitation. In the long run, beyond 2000, the U.S. should have available renewable and essentially inexhaustible sources of energy for sustained economic growth.

The U.S. should seek to achieve those objectives within the context of certain fundamental principles. Economic growth with high levels of employment and production should be maintained. National policies for the protection of the environment should be continued. Above all, the U.S. should solve its energy problems in a manner that is fair to all regions, sectors, and income groups.

To achieve these objectives, the proposed national energy act has four major features:

Conservation and increased fuel efficiency;

Rational pricing and production policies;

Substitution of abundant energy sources for those in short supply; and

Development of nonconventional technologies for the future.

Integral to the process of this program are a series of tax measures that will be considered by this committee. Tax measures permit the private sector to achieve the nation's energy objectives while retaining freedom of investment choice. By affecting prices and rates of return on investment, tax measures give clear signals to consumers and investors in a relatively efficient manner, providing new sources of supply by changing the threshold for investment in new technologies. Although the energy problem is one of the most serious this Nation has faced, the measures before this committee would not require a significant increase in the Federal workforce.

The national energy plan includes a vigorous program to maintain and expand domestic production of oil and natural gas. Through administrative action under existing law, the price of newly discovered oil will be permitted to rise over a three year period to the current world price plus an inflation adjustment. That price increase will give American oil producers a return per barrel that is substantially higher than oil companies can obtain anywhere in the world.

For newly discovered natural gas, the pricing provisions of the national energy act would allow a price equal to the Btu equivalent price of domestic oil. That price, at the beginning of next year, would be \$1.75 per thousand cubic feet, and is substantially above the current price of interstate gas. Indeed, even in the intrastate market in the State of Louisiana, the price of \$1.75 was not reached until this past winter.

In addition, by raising the price of conventional oil and gas to replacement cost levels, the price and tax measures in the plan will help create investment incentives that will bring into play advanced energy technologies.

Geothermal energy, biomass, shale oil, synthetic gas and other technologies will be able to meet industrial energy needs at a cost competitive with the cost of imported crude oil. This increased competitiveness will result from replacement cost pricing brought about by the crude oil equalization tax and the oil and natural gas use tax. This use of the price mechanism will not only promote conservation but also accelerate the development of new energy technologies; it is at the heart of the national energy plan and the legislation that is before you.

MAJOR TAX MEASURES

The major tax measures proposed by the President may be grouped under the four objectives of the plan. For conservation, the plan contains: a gas guzzler tax; a standby gasoline tax; and tax credits for energy conserving investments by households and businesses.

To bring about rational pricing and production policies, the plan provides for: a crude oil equalization tax; and removal of the intangible drilling cost deduction from the minimum tax for independent oil and gas producers.

To encourage substitution of abundant energy sources for those in short supply, the plan imposes: taxes on the use of oil and natural gas by large industrial and utility consumers.

Finally, to promote the development and use of nonconventional energy sources, the plan contains: tax credits to stimulate the widespread use of solar energy equipment; and extension of the deduction for intangible drilling costs to geothermal drilling.

The administration does not seek to reduce energy consumption in absolute terms. Rather, it seeks to reduce the rate of increase of energy consumption to less than 2 percent per year. This conservation goal has been structured to alleviate barriers to achievement of the Nation's economic goals of low unemployment and expanding output.

Tax measures play a central role in shifting buying habits toward more energy efficient capital goods. Conservation represents a large energy source that can be tapped more quickly and at less cost than many sources of conventional energy.

In the transportation sector, two major tax programs were proposed, a tax on new gas-guzzling automobiles and a standby gasoline tax, as well as changes in the tax treatment of intercity buses, motorboat fuel and general aviation fuel.

The gas guzzler tax is intended to provide additional incentives for purchasing fuel efficient vehicles. Since twenty-six percent of American energy consumption is in the transportation sector and virtually all of that consumption is oil, any serious attempt to deal with the energy problem must seek substantial savings in the use of energy for transportation. Excise taxes on fuel-efficient cars would achieve sizeable savings in gasoline consumption.

Tax credits for energy conserving investments by households and businesses are among the principal measures to bring about energy conservation in the residential and commercial sector. These tax credits will provide incentives to individuals and businesses to make energy-saving investments that are needed to improve the fuel efficiency of the stock of homes and other buildings. The tax credits are part of a broader strategy to encourage greater conservation in homes and commercial buildings. Other parts of the strategy include expansion of credit facilities, direct Federal grants, and the provision by utilities of information, financing, and weatherization services.

Tax measures are an integral part of the plan to reduce energy consumption in industry and stimulate conversion from scarce oil and gas to coal and other more abundant fuels. To achieve increased energy efficiency in industry, the House bill contains special tax credits for investments in equipment that reduces energy consumption, and equipment for cogeneration of electricity and industrial process heat. To bring about conversion from oil and gas to other fuels, the administration has proposed taxes on industrial and utility use of oil and gas. Rebates and tax credits would be available for conversion to coal and other abundant resources. Through these proposals, the national energy plan seeks to move industry toward a pattern of energy use that can be sustained over the next two or three decades, and to do so without directly mandating decisions on the private sector.

The national energy plan calls for rational pricing and production policies as part of the basic strategy of providing greater incentives for increased supply. The plan seeks to bring about energy prices that more fully reflect the true value of energy in order for market signals to work in harmony with production and conservation policies. The proposed crude oil equalization tax, adopted in the House bill, is designed to make the wellhead price of all domestic crude oil equal in three years to the price of imported oil. This program is designed to eliminate the entitlements program and thereby eliminate bureaucratic red-tape. The tax would eliminate the subsidization of imports that occurs from "rolling in" high priced foreign oil with price-controlled domestic oil. As long as a large percentage of the oil consumed in this country is imported, the world oil price will be the marginal cost of every extra barrel we consume. Household and business

consumers must face up to that necessity so that they will take appropriate actions to conserve energy and make capital investments in new sources of energy supply.

One proposal in the national energy plan is designed to approach greater equity between major and independent producers. As a result of the 15 percent minimum tax requirement enacted in 1976, some independent oil and gas producers have lost the full benefit of the intangible drilling cost deduction, although corporate producers continue to enjoy the deduction. Removal of the intangible drilling cost deduction from the minimum tax for these independents will remove this distinction without creating tax shelters for income earned in other occupations.

In addition to the incentives created by the pricing and taxing policies, the plan also provides specific financial incentives to stimulate increased use of non-conventional energy sources. Tax credits have been proposed to encourage the widespread use of solar energy equipment in residences and businesses, including farms, factories and commercial buildings. The tax credit should contribute to reductions in the cost of solar equipment, brought about by economies of scale and by increased familiarity with solar technology on the part of manufacturers, installers, and consumers. Current solar collector technology offers the promise of decentralized and pollution-free energy, well suited for hot water systems and space conditioning.

To encourage increased development of geothermal energy, the bill extends to geothermal drilling the tax deduction for intangible drilling costs now available for oil and natural gas drilling. Since these activities compete for capital, we believe that their respective tax treatment should be more nearly equal.

STRENGTHENING AMENDMENTS

Mr. Chairman, there are two major areas in which we urge this committee to strengthen the tax provisions of the energy legislation. The first relates to the taxes on the use of oil and natural gas by industrial firms and electric utilities. The second concerns the transportation sector.

OIL AND NATURAL GAS CONSUMPTION TAXES

The proposed taxes on industrial and utility consumption of oil and natural gas have two principal purposes: to induce electric utilities and industrial firms to shift from oil and natural gas to coal and other fuels; and, in the case of plants that continue to use oil or natural gas, to induce conservation and greater energy efficiency. Rebates are available from taxes collected that can be used to replace oil and gas burning facilities. With a well-conceived conversion program, a firm could avoid most or even all, tax liability.

The bill that passed the house contains numerous exemptions from the taxes. Some of these exemptions significantly reduce the effectiveness of the program. In order to strengthen the program without unduly burdening any particular industry, the administration proposes a simplification of the industrial use taxes, which takes into account some of the changes made by the house. This modified proposal would make the following changes to the house bill.

The natural gas use tax would raise the acquisition cost of natural gas to large industrial firms up to the Btu price level of distillate oil.

By equalizing the costs of oil and gas for industry, the exemptions from the natural gas use tax, except for feedstock use, should be dropped.

A tax of \$3 per barrel tax on oil would be levied on boilers, turbines and industrial processes that can clearly convert to coal.

This proposal would have the following advantages:

It would apply to industrial use of natural gas the same principle that is reflected in the crude oil equalization tax: premium and scarce energy sources should be priced at their replacement cost, particularly for lower priority uses.

It would increase oil and gas savings substantially.

It would reduce the inequities among firms and among regions that would result from the exemptions built into the house bill.

It would make additional natural gas available for residences, small businesses, and those industrial processes that need gas.

The administration also seeks an amendment that will limit the rebate of the use taxes to utilities to \$125 for each kilowatt of capacity retired or derated to peak load use. This amendment would double the value of the rebate by spread-

ing it over more conversion projects. It would significantly increase the incentive to shift away from oil and natural gas, and thereby save an additional 300,000 to 400,000 barrels of oil equivalent per day. It would also simplify the administration of the tax.

Some producing regions have historically benefitted from low energy prices. As a result of increasing energy prices, their comparative advantage will diminish over time, although they will continue to enjoy fuel costs below the national average. For example, industrial fuel prices in the southwest are currently only one-third of those in New England. Under the proposal I have discussed, industrial prices in the southwest would still be only about 70 percent of prices in New England.

Overall, during the period through 1985, the program would add 0.8 to 1.5 percent to national industrial production costs, or 0.1 to 0.2 percent annually. In industries that are not energy intensive, such as food processing, textiles and printing, that impact on total production costs in most regions of the country will be less than 0.2 percent by 1985. In the case of energy intensive industries, the impacts are larger. However, since they are spread over a seven year period, they are well within the capacity of these industries to handle.

GAS GUZZLER TAX

The gas guzzler tax passed by the House of Representatives should be strengthened if the U.S. is to achieve the goal of a 10 percent reduction in gasoline consumption by 1985.

The exemption from the tax for light duty trucks adopted by the House should be eliminated. Light duty trucks constitute 25 percent of total new sales of cars and trucks. Bureau of Census data show that 53 percent of light duty truck use is for personal transportation, including recreation. The exemption for light duty trucks is a loophole in the tax that should be closed.

The administration believes the tax on gas guzzling automobiles should be strengthened. First, the tax measure reported by the Ways and Means Committee and passed by the House establishes a "miles-per-gallon window" in which some automobiles failing to meet mandatory fuel economy standards by a small margin, would not be taxed. This window would have been 4 miles per gallon below the standard in 1979, 3 miles in 1980, 1981 and 1982, and 4 miles in 1983, 1984 and 1985. The windows established by the committee were based on an assumption as to what standards would be adopted by the Department of Transportation. The department has now published its standards, which are higher than those assumed by the committee. Because of the higher standards promulgated, the actual window increased to 4 miles per gallon in 1982, 5.5 miles per gallon in 1983 and then decreased to 5 miles per gallon in 1984. The administration recommends the gas guzzler tax be adjusted to maintain the original size of the windows up to 1982. For the years after 1982, when lead times are sufficient to enable manufacturers to adjust their product lines, the size of the window should be reduced from that originally proposed by the Ways and Means Committee.

Second, the structure of the gas guzzler tax rates should be revised to induce greater energy savings. The taxes should be increased for gas guzzling cars closer to the window, so as to provide a stronger incentive to consumer to purchase vehicles with higher fuel efficiency.

These changes could substantially increase the energy savings from the automobile gas guzzler tax in 1985. We look forward to working closely with the committee on alternatives to strengthen the gas guzzler tax.

GASOLINE TAX

The House did not include any new or additional gasoline tax in the bill it passed. The standby gasoline tax was designed as a challenge to the American people to conserve energy. The administration realizes that any gasoline tax is controversial but believes that this committee should take action on this proposal.

Mr. Chairman, I want to emphasize that the tax measures now before you are a necessary part of the President's program to deal with the energy problem. The principal task facing us is to use the next several years effectively to improve the energy efficiency of our stock of automobiles, buildings, equipment, and other capital goods, and to provide incentives to increase supply. The administration believes this lengthy and complex process can be carried out most

efficiency with a minimum of direct Government regulation. For that reason it has proposed the package of tax measures that is now before you.

Mr. Chairman, I look forward to working with you and the other members of the committee on the large and complex task that lies before us. The energy crisis is probably the most important domestic problem we shall have to address during the next several years. It is a problem that will test our vision, our creativity, and our courage. Future generations—including our own children and grandchildren—will look back at what we did in facing this problem. They will inquire whether we made effective use of the time available to us. It is, therefore, essential to have close cooperation between the administration and the Congress now, while we still have time to deal with the energy problem in an orderly manner.

[Thereupon, at 12:40 p.m. the hearing in the above entitled matter was recessed to reconvene at 10 a.m. Tuesday, August 9, 1977.]

NATIONAL ENERGY ACT

TUESDAY, AUGUST 9, 1977

U.S. SENATE,
COMMITTEE ON FINANCE,
Washington, D.C.

The committee met, pursuant to recess, at 10:05 a.m. in room 2221, Dirksen Senate Office Building, Hon. Russell B. Long (chairman of the committee) presiding.

Present: Senators Long, Talmadge, Matsunaga, Packwood, and Roth.

The CHAIRMAN. Good morning, Mr. Secretary. We are very happy to have you here and we will be very pleased to hear your statement and your analysis of the situation. You may proceed in your own fashion.

STATEMENT OF HON. W. MICHAEL BLUMENTHAL, SECRETARY, DEPARTMENT OF THE TREASURY

Secretary BLUMENTHAL. Thank you very much, Mr. Chairman and members of the committee. I am pleased to have the opportunity to appear before you this morning to testify in support of the President's national energy plan. Without question, this is a program which is without parallel in importance for all of us, and for the country as a whole.

I have a prepared statement that I have submitted to you, Mr. Chairman. I will not read it in its entirety. I will comment on it and perhaps refer to certain portions of it, with your permission.

I am also not going to go into detail with regard to the specific provisions of the administration's proposal, since I assume by now they are quite well known to you and to everyone, since they have already been substantially debated during the hearings before the House.

May I say, by way of introduction, that the importance of this program cannot be overstated. Recent events and recent figures with regard to our foreign trade alone underline the importance of doing something about our energy program. More than half of our oil needs are imported at this point. The effects on our balance of trade are very, very serious.

You, no doubt, are aware of the figures that indicate that we have something like a \$45 billion oil import bill each year with a \$25 billion deficit in the balance of trade. That means that without this tremendous bill we would actually be in surplus, so it throws our trade picture, our current account picture completely off, and it is vitally important from the point of view of the health of our economy, and its international setting, that we do something.

We have a further problem in that the growth of oil consumption is greater at this point than the additions to proven reserves that are occurring each year. That is really a situation we have to address ourselves to.

The national energy program is intended to deal with these problems by first stressing conservation, second, by stressing substitution to the more abundant energy resources that are available, and third, by providing incentives to increased production.

The aim is to decrease energy consumption to less than a 2-percent increase per year, if we can achieve it. The way in which this is to be achieved in the area of conservation is by making consumers of all products pay the replacement costs of their consumption, by substituting more efficient modes of transportation for less efficient ways, by taxing businesses on their use of oil and gas, and by providing tax incentives for insulation and other improvement outlays to improve energy efficiency.

The substitution of coal and of other fuels for oil and gas is to be achieved by providing an incentive in the tax system for businesses to convert to these alternative fuels. Solar, wind, geothermal energy sources will also be favorably treated to encourage greater residential and industrial use.

Additional production will be stimulated by allowing newly discovered oil to be priced at world price levels and by providing an incentive price for newly discovered natural gas.

Now, Mr. Chairman, I would like to turn to the particular provisions as they have emerged from the House and make some comments about them and suggest some tightening of those provisions. May I say, in overall terms, as far as I am concerned, in whatever degree you can make this program tougher, I will be very happy.

I think we need a tough program. I think that the House has done an admirable job, in working very hard and in approving many of the provisions that the President has asked for. Personally, I do not think that the version as it exists today is tough enough.

Wherever you can tighten it and toughen it, I will be very happy indeed.

Turning to the crude oil equalization tax, I am persuaded that there are many incentives under this increased price for new oil and gas that is allowed that provide for substantial incentives for additional production. I do not believe that we need a plowback of any of the additional revenues on old oil because all of the analysis that I have seen persuades me that there is plenty of cash available, plenty of cash flow available, plenty of resources available to expand the total supply of energy resources in this country.

Second, Mr. Chairman, I think that it would be desirable if the crude oil equalization tax were extended past 1981. We suggested that it be for the entire period of the program. I think that would be a desirable amendment, if you would see fit to do that, and to make whatever rebates that relate thereto coterminous with the period for which you are imposing the tax.

Overall, of course the goal of the program that we presented was not to take any resources out of the economy. We were trying, as best we could, to have a neutral effect, to put as many funds back into the economy as we are taking out.

In all of the calculations that have been made, with all the computers that we have at our disposal, I would have to say to you that these are the best estimates that we have. It is very difficult to be so concise. With different computers and different assumptions sometimes you can come up with different answers.

Our goal, as best we can calculate it, was not, of course, to have in any way a deflationary or inflationary effect—although we recognize that there is a slight inflationary effect in this program—but not to have a burden on the average American, but to have the program as neutral as possible.

So if you extend the tax, the crude oil equalization tax, past 1981, which I would certainly recommend, I would hope that you would make the provisions for putting the money back into the economy, getting it back to the consumer, coterminous with whatever period you choose.

I also would strongly endorse the view that the rebates that we are recommending in this area be done on a per capita basis. They should be done on a per capita basis not because every man, woman, and child in this country is a driver of an automobile, but because the impact of this program, apart from the use of automobiles, really will be felt in a variety of products, products which use energy, which therefore have to add somewhat to their cost base.

Therefore, I think as a family is larger, whether these are adults or children, the cost impact on such a family will be correspondingly larger. Therefore, I think it will be fair to do this on a per capita basis.

Let me now turn very briefly to the transportation taxes. In the area of transportation taxes, the recommendations which the administration made were somewhat tougher. They involved somewhat higher taxes and somewhat less exceptions than in the House version which has come to you, and again I would recommend that you take a close look at tightening those provisions, particularly as they refer to the so-called gas guzzler tax.

One very important element that I hope will be approved by the Congress is the inclusion of small trucks. These are a very, very important part of the total automobile sales in the country. They are really no different than passenger automobiles, and as you know, I have had some prior associations with that industry. I know the characteristics of these vehicles pretty well. They are like cars in many ways. They are used as private vehicles in many instances.

Indeed, 53 percent, we calculate, of the use of small trucks is for private or recreational use. To leave them out, I think, would leave an important loopsole in this particular kind of tax.

They are not an unimportant portion of the total number of cars sold. The statistics that I have seen indicate that 23 percent of all new car and truck sales are, in fact, in the form of these small trucks. It is a very fast growing sector of the total automobile sales picture. It has increased about 20 percent a year in recent years, and I therefore think that they clearly ought to be included.

I also think that the present gap that exists between the levels at which the gas guzzler tax would be triggered on the one hand and the standards for fuel economy that are set in the law on the other ought to be closed. At the present moment, there is a gap in the House version.

This will be another way in which the imposition of this gas guzzler tax could be tightened and made tougher.

That extension of the 4-cent gasoline tax and the elimination of the deduction for State gasoline tax is something that we support and that we believe ought to be in the legislation.

Next, turning to the tax on the business use of oil and gas, I believe that there are several areas where this tax should be improved. First, all industrial gas should be taxed at a rate which makes the price of gas in all cases equivalent on a Btu basis to distillate fuel oil without exemptions.

When applied in this fashion, the use tax works as a pricing mechanism which makes industrial users pay replacement costs of gas rather than an artificially low price which encourages excessive use.

This tax should apply to all users without any exception except for the small user, defined as a user of 50,000 barrels of oil equivalent per year.

Second, we think a rebate of the utility tax should be conditioned on the benefit of the rebate not being passed on to the consumer any faster than ratably over the life of the asset acquired. This would make the treatment consistent with the treatment given for the investment credit which the utilities may take as their option in place of the rebate.

Third, in place of the industrial oil use tax imposed by the House, we recommend a single tier tax incorporating the House's tax schedule that starts at 30 cents a barrel until 1985 when it goes up to \$3 a barrel. The only special exception would be for current facilities unable to convert for environmental reasons.

Turning now to the residential energy credit. The President has set a goal of insulating by 1985 90 percent of the homes that presently have insufficient insulation. The credit provided by the House goes a long way toward meeting this goal. Expenditures for insulation, storm doors and windows, clock thermostats, exterior caulking, and the like would go in that direction.

In addition, the solar and wind credit is designed to interest more homeowners in alternative energy sources. I think that is very important.

This is really a beginning trend, but I think we can stimulate it. I hope that the bill will make substantial provisions for that kind of incentive.

The present cost of solar and wind energy installation is high because the demand is low. Therefore, whatever we can do through a tax incentive to encourage Americans to turn to these really inexhaustible energy sources will help these industries develop to the point where the Government incentives are no longer necessary and, clearly, we should get out of that as quickly as we can.

On the business energy tax credits, the House also approved a series of credits designed to promote the use of energy efficient insulation, to encourage commercial and industrial use of solar and other alternative resources and to promote recycling and cogeneration. These expenditures would qualify for an additional 10-percent investment tax credit which, I believe, has proved quite effective. That is over and above the credit which they otherwise would qualify for.

The House also conserved energy and reduced the revenue loss by denying accelerated depreciation and the investment tax credit to purchasers of air conditioners and space heaters fueled by natural gas or oil. These are initiatives which we endorse.

Turning then, very quickly, to supply incentives, there are two proposals in the House version of the plan which relate to this matter. First, the House accepted a proposal to make permanent a provision that applies the minimum tax to intangible drilling costs to oil and gas, only to the extent that such costs exceed the sum of the taxpayers' income from oil and gas production, plus a result of 10-year amortization of these costs.

The second provision allows the expensing of geothermal intangible drilling costs, which extends to geothermal resources the treatment accorded to oil and gas. Also, the House provided for percentage depletion for geothermal resources only at a 10-percent rate and only at the extent of the basis of property.

These provisions will cost about \$6 million in 1985 and should save 60,000 to 110,000 barrels of oil a day, and we would endorse it.

So in conclusion, Mr. Chairman, very briefly summarizing my statement, this national energy plan is very important. It has many tax features. It is, in many ways, a tax plan.

There are also nontax aspects, but it does rely on taxes and credits and rebates to move the economy away from its present position with regard to energy and from the over-consumption of oil and gas which I think, in the medium and long run, is going to be increasingly damaging to our economies.

You may ask the question why I support this kind of approach, knowing, as you do, that generally speaking I am not in favor of using the tax code to favor essentially nontax objectives. Particularly in view of the fact that you also know that in the not too distant future the administration will be coming before the Congress to urge major simplification of the tax code which, to some extent, would be directed toward the elimination of some of these practices in other areas.

The simple answer, Mr. Chairman, is that in the case of energy, the basic problems are so urgent and the alternative solutions so unsatisfactory that resort to tax incentives is clearly the proper—indeed, the essential and probably the only way in which we can get some quick action.

We could have relied entirely on market incentives coupled with total deregulation of oil and natural gas prices, but, given the present distortion in the world market, the relationship of what we do in this country to what happens beyond our borders, over which we have very little control, this approach would have created enormous and unjust windfalls throughout the economy and would not have been effective, in our opinion.

The American people, with justification in our judgment, would have rejected such an approach out of hand.

The other alternative, then, was to rely solely on physical controls, directives, regulations, getting the Government very deeply involved, and that, too, is an alternative which would have created an even larger bureaucracy than we already have, and that clearly would not have been a desirable alternative.

For that reason, the only fair and effective solution was to turn to the tax system and the administration and the American people are therefore very hopeful that you and your colleagues, with your well-known expertise and experience and sense of fairness will act in this direction and come up with a solution to what is clearly one of the most serious problems facing our Nation.

Thank you very much, Mr. Chairman. I would be very happy to answer whatever questions you may have.

The CHAIRMAN. Thank you, Mr. Secretary.

Under our usual rule, Senator Talmadge is recognized.

Senator TALMADGE. Thank you, Mr. Chairman.

Mr. Secretary, we import how many barrels of foreign crude into the United States today now?

Secretary BLUMENTHAL. I think that the latest figure that I have seen is somewhere between 7 and 8 million barrels a day.

Senator TALMADGE. 7 to 8 million barrels.

What is the landed cost of that crude?

Secretary BLUMENTHAL. I believe that the cost is related to the \$13.50 per barrel.

Senator TALMADGE. \$13-plus on that oil?

Secretary BLUMENTHAL. Right.

Senator TALMADGE. The cost of that imported crude this year, I believe, will be what? \$42 billion?

Secretary BLUMENTHAL. It is likely to be as much as \$45 billion.

Senator TALMADGE. That will cause our balance-of-payments deficit to be something on the order of \$25 billion to \$30 billion?

Secretary BLUMENTHAL. I hope it is not going to be \$30 billion, but it will be \$25 billion or maybe a bit more. Somewhere around \$25 billion.

Senator TALMADGE. What is the estimated cost of our imported crude 5 years from now?

Secretary BLUMENTHAL. I really cannot answer that. It would depend on the price at that point.

Senator TALMADGE. Assuming the price remains the same or increases some 10 to 15 percent.

Secretary BLUMENTHAL. Without any kind of energy program?

Senator TALMADGE. Even with this energy program.

Secretary BLUMENTHAL. With this energy program, at present prices, if the savings that have been calculated would be achieved—those are substantial if—we would be able to reduce imports so that it would be on the average of about 6 million barrels a day.

Senator TALMADGE. In other words, you think that the importation of crude for this program would go down, not up?

Secretary BLUMENTHAL. Through 1985 there would be some moderate reduction in imports because we would be shifting to other sources of energy in this country.

Senator TALMADGE. I thought that the main thrust was to drastically reduce the importation of crude, and it would increase under this program, but not as rapidly. Do you think it would go down with this program's implementation, down, not up?

Secretary BLUMENTHAL. It is intended to go down by virtue of the fact that we would be economizing in the sense of reducing the total

use of energy, the increase in the total use of energy, to less than 2 percent a year. Therefore, by conservation, by the stimulation of additional production and shifting to other more abundant uses of resources of energy, we would be reducing the import of oil from abroad, certainly substantially over what it would have been and in absolute terms, somewhat slightly over what it is at the present time.

Senator TALMADGE. How have the Germans and the Japanese, with less domestic energy than we have, managed to still continue to have a favorable export-trade balance while we have not?

Secretary BLUMENTHAL. I think in the case of the Germans, that is I think it is a very special case, they have, in the first place, a very different labor situation than we do. They have a close relationship with their unions which has allowed them to keep their cost situation in a different way than ours has been.

Second, they have concentrated on a variety of export items in which their special expertise and their delivery, their service, has been very important. They just have had a very strong economy, with strong demand, throughout the world for their products and they have done a very good job in that area.

Senator TALMADGE. So have the Japanese?

Secretary BLUMENTHAL. For the Japanese, I think I would give a somewhat different explanation. The Japanese are really an export-oriented society and economy and the reasons there are somewhat different but, in both instances, they are very export oriented and have done a very good job.

Senator TALMADGE. Is not the deficit in our trade caused exclusively by the import of energy? That has been what has caused the value of our dollar to slide against the Japanese yen, the German mark, the Swiss franc, and the French franc, has it not?

Secretary BLUMENTHAL. I believe that an important reason for the weakness in the dollar in relation to the yen and the Deutsch mark clearly has been on a current account basis, taking not only trade but capital movements, we have been in deficit. This year, we are likely to have a current account deficit of \$12 billion or so as against a substantial surplus in the current account of the Japanese, which may be \$6 billion a year and the Germans, which may be about \$6 billion a year.

Senator TALMADGE. If we continue to have these huge deficits on our export trade caused by the importation of petroleum, our dollar will become less and less valuable, will it not?

Secretary BLUMENTHAL. I think that would be a likely consequence, if other things do not happen.

We do have, on the other hand, a strong and growing economy. We have many things going for us, Senator. We have a faster growth rate than most other countries, including the Germans at the moment.

Senator TALMADGE. Even with that, our value is losing value and the market is increasing, is it not?

Secretary BLUMENTHAL. I think that is one of the offsetting factors, and that is why, basically the dollar is considered a strong currency and is maintaining its strength on an overall basis.

The dollar has depreciated on a trade basis against all currency by less than a half of a percent, as of the latest figures that I have seen. That is because we also have a lot of capital inflows into this country.

People are still investing in this country, which offsets this very large trade deficit of \$25 billion.

That is why our current account deficit is quite a bit smaller. So there are still people who have, and rightfully so, a lot of confidence in the strength, vitality, and growth of the economy.

Senator TALMADGE. We all realize, of course, that the best alternative source that we have in energy immediately is coal and we want to transfer everywhere we can to utilization of coal from either natural gas, which is in short supply, or petroleum, about half of which we have to import.

Secretary Schlesinger testified yesterday that we have, I believe, 1 trillion barrels of petroleum locked up in our shale rock. He further testified yesterday that one oil company estimates that they can produce petroleum from shale rock at \$12 a barrel.

His own estimate was that it would cost \$18 to \$20 a barrel to produce petroleum from the shale rock.

Assuming the lower figure, that is only \$5, or less than 50 percent, above the cost of imported energy. That being true, there being no way that this country can continue to function with trade deficits of \$42 billion and maybe \$50 billion or \$60 billion, and if you are wrong about what imported energy is going to cost us, why would it not be to the advantage of this country, if necessary to preserve the value of our dollar and keep these petroleum jobs at home, to subsidize the production of the shale rock, either by tax incentives, subsidies or otherwise, to produce our domestic needs here in the United States of America?

Secretary BLUMENTHAL. Senator, I am not an expert in this whole energy field. I follow the literature and listen to the experts.

It is my impression that there are many alternative sources of energy to oil and gas. Shale oil is one of them. Geothermal, solar, and eventually some of the more exotic forms of energy are coming along. Of course, coal is a very important one.

It is my impression that, in the first place, that conservation clearly has to be the immediate approach to this problem.

Second, that the technical problems, the technological problems relating to the exploitation of shale are considerable and that what is needed to work on that, and there are sufficient resources available, before you go into the actual exploitation of this, this will take some time. Therefore, it is not the next most wisest step at this point in order to get the Government involved in a massive subsidization program for this particular form of energy.

Senator TALMADGE. My time has expired.

The CHAIRMAN. Senator Packwood?

Senator PACKWOOD. I am curious, Mr. Secretary, on the home insulation and solar credits. If the purpose is to conserve energy, why does it only apply to principal residences?

Secretary BLUMENTHAL. I suspect the answer to that is that this is what the vast majority of residences are. They are, in fact, the ordinary home that a person has.

Senator PACKWOOD. The vast number of people live in principal residences? I believe that, but if they have a separate home, call it what you want, and you want to conserve energy, why not apply the tax credit there also?

Secretary BLUMENTHAL. I understand the business credit applies to other structures.

Senator PACKWOOD. Why not a vacation home?

Secretary BLUMENTHAL. If a vacation home is rented out, it would be covered under the business credit. If it is not rented out, it would not?

Senator PACKWOOD. Why not?

Secretary BLUMENTHAL. I think the only answer I can give you, Senator, is I guess it was felt that the credit should not be made available to people who own several homes and therefore are in the very high tax brackets. Essentially, it should be made available to the average person to deal with insulating his regular residence. Then if you have a business of owning other homes that you rent out, then you would get it under the business side.

Senator PACKWOOD. That sounds to me more an equality or welfare concept than energy conservation. If you are really serious, it should apply to every conceivable thing that we can encourage people to insulate and put in solar energy.

Secretary BLUMENTHAL. You are quite right. There have been a number of judgments in the way in which the resources that are taken out of the economy are put back in that have had to be made. In each of these, we have been very conscious of the fact that we did not want to distribute these moneys back into the economy in a regressive way.

We have wanted it to be at least as progressive as the tax system is. That is why some of these judgments have been made.

Senator PACKWOOD. Yesterday, when I was questioning Secretary Schlesinger, I was not fully enough prepared to cross-examine him. I am today.

Secretary BLUMENTHAL. That sounds ominous.

Senator PACKWOOD. On the U.S. Geological Survey, if I had read some of the statements before the House and Mr. Schlesinger, that it is upon which all the estimates are based. The only difference in estimates is how much you can get out at such and such a price.

There is no serious quarrel with U.S. Geological Survey's basic estimate of how much crude petroleum exists. Some of it is called economic, some of it is called subeconomic, and some is noneconomic.

Under the U.S. Geological Survey's conservative estimate, there is enough petroleum to take care of our total use, domestic and imported, at present consumption rates—granted, they may go up—for 42 years. Their best estimate would run 64 years.

Why, therefore, the hurry to convert to something? This is crude petroleum, not shale, not tar sands. Why the hurry? Why not use our petroleum resources for the next 25 or 40 years while, at the same time, we are converting to renewable energy resources?

Secretary BLUMENTHAL. Senator, I would have to request when it gets to the issue of how much is there and how much is there at what price that I am simply not competent to debate that. I do not know enough about it.

I would say that I am persuaded by the argument that there is a finite amount of oil available. It may be 20 years' worth, it may be 30, it may be even 40 years' worth but from a national point of view I am persuaded that it is dangerous to use it up as fast as we have rather

than begin now, which I would prefer, to move us away from the easiest, most accessible and cheap energy source to others and to encourage and to develop the exploitation of those, so we reserve for future periods and generations which clearly is going to disappear at some point or other.

But I really cannot debate with you whether it is 42 years, 30, or 50. I do not know enough about it.

Senator PACKWOOD. If this resource becomes too expensive because at some stage it is going to outstrip coal in terms of the cost, why not simply go to the market? We have ample resources; nobody disputes that now we have ample energy in this country at a price, even shifting from oil to go to coal.

Why not simply allow the market to produce that and quit worrying about where the energy is going to come from as long as we know we have the resources to develop.

Secretary BLUMENTHAL. I think that we have a situation in which we do not have, in regards to energy, a free market. We have not had it in a long time. There have been all kinds of restrictions.

We are certainly not facing a free market internationally, and we have not had it domestically. The situation that we have faced has not led to the development of alternate resources. We have had these vast coal resources and nothing has happened to move us toward a greater use of coal.

Senator PACKWOOD. Because we have had artificially cheap natural gas for too long a period, an unusual situation with oil because of an international cartel where, at the time, the price was a very low price.

It would seem to me that the risk you would run in the future is not high priced foreign oil but what would we do in 1985 or 1990 if coal were competitive and the overseas nations were to cut the cost of their oil? It puts coal producers and those who have shifted to coal in a very difficult position, to be faced with a huge possibility of not \$19 oil but \$7 or \$8 oil.

Foreign nations might do that if faced with the loss of their market.

Secretary BLUMENTHAL. That is a possibility. When that happens, clearly the President and the Congress would have to consider how to protect coal producers in this country, producers of other forms of energy who have made massive investments on the basis of a certain price pattern that they were led to expect.

Senator PACKWOOD. You cannot accuse the foreign countries of cutting costs below production, or production costs of oil are so eminently cheap in the world today that \$8, \$7, they could make a handsome profit in the OPEC countries.

Mr. Secretary, I will not quiz you further. I agree with most of the conservation measures. In fact, I do not think the administration and the House went far enough. The House retreated too far, the administration did not start high enough on conservation.

I hope we can toughen the bill on this end. I am frankly discouraged by the doom and gloom and pessimism that exists. You would think that Chicken Little was writing the energy projections for the future of this country.

The sky is not going to fall: the energy is here. It is going to cost us more than we have ever paid for energy before, but we can be very

close to energy independence. I do not know if we can make it by 1985, but we can be close by 1990.

I would hope that the administration would be willing to look more seriously at the potential for increased crude oil production and other production without, in any way, lowering the standards. The fact that we can use all the energy we can waste is no justification for wasting it.

I do not think, by any shot, we are in any way jeopardizing the future of this country. We should not frighten ourselves into thinking we are going to run out of energy, or in any way close to it.

Secretary BLUMENTHAL. Senator, as I have listened to the debate, there is no intent to frighten, there is no intent to paint a picture that is an unrealistic one.

I think what we have had in this country is a situation in which people have not been sufficiently realistically aware of the problems that we face, and clearly that situation had to be reversed by telling the American people what the real situation is.

I repeat, to make a real beginning and bringing forth more production, I think there are lots of incentives in this program to do so, but also to encourage people to economize or to shift to other uses.

If we do not tell them the truth, that there is an increasingly serious problem, we are going to have these huge imports.

Senator PACKWOOD. That is a danger. That is a danger economically, militarily, diplomatically that we ever allowed ourselves to be put in that position for the last 5 years, since the oil embargo 4 years ago. President Ford presented an energy policy, like it or not. Congress did not like it and they came up with no other policy. As yet, Congress has not come up with any other policy.

They do not like much of President Carter's policy. Basically this Congress for 4 years has had a policy of prayer as far as energy is concerned, which is probably a better other policy than many of the policies that we have.

That ends my questions.

The CHAIRMAN. Do you want to respond to that, Mr. Secretary?

Secretary BLUMENTHAL. I am more of a diplomat than that.

The CHAIRMAN. Senator Roth?

Senator ROTH. Mr. Secretary, some of the concerns expressed here are my concerns. I can see in the administration's program what I will call no-goal of energy sufficiency. I do not think we can ever be independent, as sometimes we have claimed in the past.

It does seem to me that there is a positive side and somehow we have to set a goal and a time when we are going to do what is necessary.

I think that is where your program is inadequate and inefficient.

For example, the whole thing really confuses me. Perhaps I am not very wise in the ways of Washington. One minute you talk about sacrifice and then you put the money back into the economy so that it has no effect.

I do not think that we can have it both ways. I also think the problem with your program is that you are confusing social objectives with energy sufficiency. I think that is at the heart of your problem.

I talked at great length yesterday. By 1985 you are going to be taking something like \$6.5 billion to \$7 billion from those in the income brackets between \$5,000 to \$30,000. That is a lot of money.

What are you doing? You are rebating it in various ways but you are doing nothing to make this country energy sufficient.

I believe that the American people are probably willing to pay additional taxes, even though it hurts, if they feel the Government is going to use that money on an energy program and for some purpose besides income transfer, and that is all your program amounts to.

I would like to repeat some advice that I gave you earlier this year on the \$50 rebate. I think you ought to throw out this \$22 rebate and do something with that money.

What are we doing in the way of a crash program to develop some of these other sources of energy? If you are going to ask people to give up, to do with less—you are going to have to come up with a real energy program.

Look at the U.S. News & World Report. It says that Congressmen making the rounds of their districts—I have been home the last 2 or 3 days, and I can bear this out—over the August recess we will hear—the persistent refrain from voters all over the country. People are more and more infuriated by seemingly endless price hikes. What hurts most is the inflation that they cannot escape: Increases on food, shelter, clothing, transport. It hits all income levels, all regions.

And yet we have a program here that will take billions of dollars more from middle income taxpayers without doing anything to solve the energy crisis.

It took a great deal of courage, and I congratulate the President for having the political guts, to turn away from the \$50 rebate. I think the same thing ought to be done with this same \$22 rebate, because it is not going to accomplish anything.

Would you care to comment?

Secretary BLUMENTHAL. Yes, sir, I would like to comment on each of the points that you made, Senator.

First, there are some goals in the program. You know what they are. If you feel that they are not tough enough, then I think you ought to make them tougher.

If you feel that we can go further by 1985 in the way of reducing the consumption of energy without harming our economy and reducing our imports without harming our economy, that is fine. I agree with you: Self-sufficiency in the foreseeable future.

Senator ROTII. May I make an observation?

What I am suggesting here, Mr. Secretary, is that we try to make better use of the money you are extracting from working America to make this country sufficient.

I am not only talking about oil and gas. I think our scientific world—you come from the business world—has the means and know-how to make some major breakthrough. But you do not talk about that. All you talk about is conservation.

I agree that conservation is essential, but it solves nothing. It does not create one additional barrel of energy.

Secretary BLUMENTHAL. Let me then address myself to that question.

I think it is important for the average American that we do not enter into an energy program which is financed off their backs. I do not think it is essential that that be done.

I think the economic goal of the administration to bring inflation down gradually and to provide more jobs and to get that 7, at this point 9 percent, unemployment rate down, can be and should be pursued at the same time.

If we take the money out by taxing gasoline, by taxing the kinds of things, the energy component, or the sorts of things that the average American uses, and give it to the energy companies, I do not really believe that is going to reduce the rate of inflation and reduce the rate of unemployment.

I think all of us would hear a great deal from the average American.

Senator ROTH. If I could comment, every time somebody brings up the question of supplies, the answer is, do not give the money to the oil companies. I am not suggesting that. There are other businesses, other scientists.

I am saying that we should encourage some kind of a program that is going to make a breakthrough, because time is of the essence.

I would like to go along just a minute, if I could, with some of the questions asked by the Senator from Georgia. We are seeing the dollar going down. Many people think that this is a part of a plan to reflate the world economies, and so forth.

What is that going to do to the price of OPEC oil? Is it correct to assume that the profit that the OPEC countries make is indexed on the American dollar?

Secretary BLUMENTHAL. The pricing policies are somewhat of a mystery to me, but they are not indexed.

Senator ROTH. I realize that technically speaking they are not, but is that the basis of their pricing policy.

Secretary BLUMENTHAL. I really cannot tell. They go through long and difficult negotiations deciding on what their interests are. I do not believe that it is indexed in any way.

Senator ROTH. The Congressional Budget Office has predicted the energy program will cause a 1.8 percent decline in investment. There has also been a prediction of considerable inflationary impact as a result of the administration's energy program. They vary, but some forecasters predict that inflation could increase as much as 3 percent in the next 3 years.

There is also a prediction that the energy program is going to result in less jobs. As the individual in the administration most responsible for the economy, how do you reconcile this energy program with these projections.

How are we going to create the 15 million jobs we need by 1985 with this kind of a program?

Secretary BLUMENTHAL. I think that we cannot do it by taking purchasing power out of the economy because that clearly would lead to more unemployment. I think that there are important elements to this program which will create additional jobs where there will be whole new industries that are developed to insulate homes; for R. & D., the kind of geothermal incentives; for R. & D. in the coal industry; for better techniques, more machinery.

Some of the changes that have to be made in the automobile industry in order to conform with the standards that are proposed, many of these things will be job related.

At the same time, I am hopeful that a tax reform program that we will be presenting to the Congress in the near future will have features in it that will stimulate capital formation and will have a positive impact on job creation. So I am quite optimistic, even with this energy program, which clearly has some sacrifices in it and some negatives in it, otherwise we would not get off the ground. Even with that program, with its impact, the total effect on the economy will be one to increase jobs and to continue to bring inflation down.

Senator ROTH. You say you do not want to take purchasing power out of the economy and yet, under the program by 1985, you will be taking roughly \$7 billion from those in the pay brackets of \$5,000 to \$30,000.

Does it not disturb you somewhat that we are having this mammoth redistribution of money and the uncertainty that it is creating for business generally? As a matter of fact, one of the reasons that economists do not think we have more capital investment is the fact that there is so much uncertainty. You have the uncertainty of the oil prices, the uncertainty of the energy program, the uncertainty of the so-called tax reform facing the economy for the next 2 or 3 years.

It just seems to me that this program as it is now constituted is going to be a very negative drag on the economy.

Your own figures admit—I do not mean you personally, I mean the administration—that unemployment will increase by 200,000 jobs by 1980 because of this program. That is according to the chart presented on page 12 of the Ways and Means study of the effects of the administration's proposal.

My time is up, Mr. Chairman, but it seems to me, as I said earlier, that if you are going to ask the average citizen—and these people are having an awful hard time making their budget balance—if you are going to ask them for more money, the only way that we can go back and justify it is if we give them some hope in the future that we are going to crack this energy crisis. I do not see that side of the picture.

I agree with the need for conservation, but I think it is negative in approach to rely solely on conservation.

Secretary BLUMENTHAL. May I make a brief comment on that?

Our calculations, based on the studies done by the Council of Economic Advisers indicates that the sum total effect of this program will not have any effect through 1985 on the GNP, one way or the other; that it will not have an effect on employment, negatively or positively, affect it one way or the other.

—There will be some increases in prices. It does have a negative impact on inflation. Of course, we are doing a lot of things to counteract that.

In the period 1978 to 1979, which is about as far ahead as we can reasonably see, it will be at most 0.3 of a percent a year.

Therefore, you get to the question of uncertainty. As a former businessman, Senator, I would have to say to you, yes, there is a lot of uncertainty. It is an uncertain world. It is uncertain for you, me, and for businessmen and they do not like it, and we can give them more certainty. We do not have an energy program. They would be a little more certain, they think. We do not have to do anything about taxes and we would be a little more certain, they think.

It still will be a very uncertain world. We are all going to have to live with what essentially are a lot of hazards.

The alternatives to not proposing these programs is to do nothing, and if we do nothing, I do not think we discharge our responsibilities. I think businessmen will have to recognize it is better to have a program in which the Government takes its responsibility and tries to make changes that are positive for the country, thereby creating some uncertainty until the Congress has acted than sitting back and doing nothing.

A do nothing policy clearly would not help us.

Senator ROTH. Mr. Chairman, with your indulgence, I would just like to make a comment or two.

I am not proposing that we do nothing, but I do think that in addition to the program of conservation that we should have a program to do something positive to make some major breakthroughs.

I think business, as well as the average citizen, might rally behind that. Again, I am not just talking about oil, gas, and coal. I am talking about some major new breakthroughs. It seems to me that this is within the realm of possibility.

In regard to the economic impact of the program in the June 3, 1977 pamphlet issued by the Committee of Ways and Means, there is general agreement that there will be a 0.2 percent drop in jobs because of the energy program. That includes projections made by Data Resources, Wharton, Chase, the administration, and CBO. All have agreed that by 1980 that is going to be a drop of 200,000 jobs.

It is also agreed that the rate of inflation is going to go up. The real gross national product, according to these studies, will drop.

The only one that projects no impact on GNP is the administration. I am not criticizing your administration. Every administration paints a rosy picture.

Secretary BLUMENTHAL. Senator, may I point out—I gather you are quoting from table 2 on page 12 of this energy program, which has been put out, prepared for the Committee on Ways and Means and the Joint Committee on Taxation.

The unemployment forecast, that is listed as 0.2, 200,000 for the administration, is an error. That should be zero, and I think that is simply a printing error which has been recognized by the House Ways and Means Committee and acknowledged.

I am sorry about that, but that is a printing error.

Senator ROTH. I would appreciate it if you would submit for the record that correction, if that is true.

Secretary BLUMENTHAL. Yes, sir.*

Senator ROTH. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Secretary, this energy crisis first came to the Nation's attention in 1973 with the Arab boycott. At that time, President Nixon called on the people who are in the business of producing energy and asked them, as he explained to some of us, how soon America could be restored to energy independence.

And those men told him that with complete Government cooperation it could be done in 7 years.

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And when he announced the so-called Project Independence, he made that 7-year goal his objective.

Since that time, I have gained the impression that the majority of Democrats in the Congress did not want that energy goal to be achieved under a Republican administration, because they surely did not cooperate with it.

Every bill that was passed imposed environmental obstacles and said, "Oh, no, we cannot do this, it will mean an increase in price." They feared that if the price of the product increased, it might mean that jobs would be displaced, and so forth.

For example, in the gulf alone, obstacles were placed in the way of new production. There are tremendous gulf areas that will produce right now, if one would only go right out there and drill, if one can get a lease and permission to do it. They tell me that from the time that one obtains the lease until the time that one starts drilling is a full year's delay.

The bill that we just passed, call it an energy bill, imposed additional obstacles on offshore drilling. The bill permits every little lady who might find some spare time to think about it the opportunity to employ a young lawyer who would like to make a name for himself, to take oil drillers to court, even though the Government thinks we should go ahead and produce.

The bills that we have passed in recent years have been along the same lines.

I am ashamed of the energy bills I have voted for, because until now, all they have done is to impede the production of energy, by imposing additional environmental constraints. According to the last bill we passed, the plan is to take all the old mines in West Virginia that have been sitting idle for the last 30 years and which are no longer productive, and close all of those old mines over and beautify them. That is fine, but it is not a priority item as far as getting new production, if you are short of energy.

We are now faced with a so-called energy program that retreats completely from energy self-sufficiency. Is there any day in the future by which the program we have before us is supposed to give us energy self-sufficiency in this country?

Secretary BLUMENTHAL. This program does not envision energy sufficiency through 1985.

The CHAIRMAN. Is there any date by which it does envision energy self-sufficiency?

Secretary BLUMENTHAL. No, it does not.

The CHAIRMAN. It seems to me that that is a sad projection for a nation that has as much energy as we have. The Secretary of Energy testified yesterday that we have enough oil and gas to do the kind of thing that Senator Packwood has in mind. I know in the oil area. With a field that is completely exhausted, where theoretically all the oil that can be extracted has been taken out, by means of tertiary recovery one can extract as much additional oil as has already been taken out.

That is high cost oil, but it is there. We have a program that makes it unattractive at this moment for someone to drill for new gas where they know they are likely to find it, because if he waits, he might be permitted to sell it for what it is worth compared to the imports that we bring into this country, rather than selling it at a lower price.

With regulation, we are tying the industry up in knots. We have proposals for more and more regulation to impede industry from doing its job. It has led me to think that perhaps the idea in previous years was to help elect a Democratic President on the theory that the worse the situation got, the more the man in the White House would get the blame for it, simply because it happened during his administration. Now that the Democrats are in the White House, I do not see any point in doing business that way.

It seems to me that we ought to be thinking about moving toward energy self-sufficiency. There ought to be an estimate in terms of 1977 dollars, or in constant dollars and any base year you select, of what would it cost us to achieve energy self-sufficiency.

Is there any estimate of that sort anywhere?

Secretary BLUMENTHAL. I am not aware of it, but I can check into it; if there is one I will submit it.*

The CHAIRMAN. If there is not, somebody ought to be about it.

What would it cost us? We received testimony yesterday that we have enough shale alone, as Senator Talmadge pointed out, to last us 200 or 300 years, if we were not relying on anything but that. It would cost more than what we are now paying for oil and gas, but it is there.

We have enough coal to last us another couple of hundred years; we have enough oil and gas, if you really get down to it, to last us for perhaps 60 or 70 years. That adds up to 460 years of supply right there.

With all that going for us, we have not talked about what can still be done with atomic power. We are just scratching the surface of what can be done to develop solar power. We ought to have some estimate as to what it would cost to develop these sources and we ought to be thinking about doing it.

Of course, that leaves aside the conservation aspects. The conservationists contend, looking at the cheapest way to produce more energy, that one would save it cheaper than one could produce it. Instead of air conditioning the entire home 24 hours a day, one should simply air condition the bedroom when sleeping in it at night and air condition the living quarters during the day. That could cut an air-conditioning bill about 50 percent.

Some of the other conservation methods you talked about are of concern here. It is not likely that much is going to be done about any of those unless we face the fact that it will cost more to produce the energy and a higher price would tend to cause people to do more in the way of conservation.

The German Chancellor was here, and he mentioned the fact that Germans, with the same standard of living that we have, consume half as much energy on a per capita basis as in the United States. He said that it is possible to undertake these various methods that have been suggested about encouraging people to use less. You and I know that none of that is going to work unless we raise the price of the product.

That is one unfortunate reality I think we will all have to contend with. There is no way we can continue to hold the price of the product low and ever move anywhere near energy self-sufficiency.

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I would like to see us do more about it. I am concerned about your argument that if you let the price go up, a windfall profit will accrue to somebody. It ought to be more profitable to produce energy than it is to invest money in the average manufacturing or any other available investment, because otherwise one cannot expect people to put money into energy.

What is wrong with the concept that we will let people make more money, provided that they plow the dollars back into producing more energy?

Secretary BLUMENTHAL. I am persuaded by the figures that I have seen, Senator, that would indicate that for new oil the margins that the producers have in this country are fairly substantial.

I saw the National Petroleum Council in 1974 indicating that half that price \$6.62 a barrel, would bring forth all of the oil that could be found and produced and provide the industry with a 15 percent rate of return. Here they are getting, for new oil and for tertiary recovery and for stripper wells, they are getting \$13.50 a barrel. That ought to be enough. How much do they need?

I am not an expert in this industry, but there is a level at which you would say, giving them increasing—

The CHAIRMAN. What price are you permitting them to charge for the old oil?

Secretary BLUMENTHAL. The old oil, I think they are adjusted for inflation, the 1977 price, I believe.

The CHAIRMAN. What is the price now?

Secretary BLUMENTHAL. It is about \$5 a barrel.

The CHAIRMAN. Around \$5 a barrel.

What is your estimate that it would take nowadays for a person to find and produce a barrel of oil? What is the average now?

Secretary BLUMENTHAL. The only figure that I have here—I do not have the margins.

The CHAIRMAN. What is your estimate in terms of finding and producing a barrel of oil today? What do you estimate the cost of it to be?

My understanding, Mr. Secretary, is that it is estimated to be about \$12, so that if a man is producing a barrel of oil from a well that he has now and you want him to replace that barrel with another barrel of oil, are you permitting him to charge \$5 for the barrel that he has, but when he tries to replace that barrel of oil with another barrel of oil, it is going to cost him \$12 on the average?

Secretary BLUMENTHAL. Well, Senator, the number that I have here is that, on the \$13.50 price, he would have a margin of \$2.40 to \$4.40, somewhat lower; but these are the figures that I have here. Also, that the investment required of \$15,000 to \$25,000 of capital investment per barrel of oil.

The problem really is that the old oil the producer has in his inventory, he has spent the money for that and any new barrel that he goes out to discover and to develop, he does get a higher price.

The CHAIRMAN. Let us analyze that for a moment.

Imagine a fellow with a barrel of oil that you want him to sell. You want him to go out and find another barrel of oil. Under the program that you have here, as I understand it, and what you advocate for the

future, you will let him sell that barrel of oil for \$5. For him to find a barrel of oil to replace that one after he has sold that barrel is going to cost \$12.

If you want him to continue to produce as many barrels that he is selling now, it seems to me he ought to be able to get the same price, at a minimum, that it is going to cost him to produce the additional barrel of oil.

Otherwise, your program is going to encourage him to go out of business or to produce only one-third of what he could produce if he were permitted to sell his oil on the cost of replacement rather than the cost of many years ago to find that oil.

You referred to the cost of replacement here in your statement. I would like to review it when I have more time.

If you are thinking about the cost of replacement, I do not see how you can contend that a producer who is willing to spend whatever it takes to replace what he is producing should not be able to sell what he has at a price that would enable him to produce it, on the average.

Secretary BLUMENTHAL. If I were a businessman, Senator, I would look at the price that I can get for the new product and the return I could get on that new product and figure out whether it is advantageous for me to do that, rather than going back and saying what did I get for it last year.

Every time you asked me to make an investment, I would ask myself, what is the investment required, what kind of return do I get on it and then, do I have the cash.

The CHAIRMAN. That is the way that you would feel if you were not Secretary of the Treasury? Now, you are Secretary of Treasury.

Let me look at it the way I would look at it if I were the Secretary of Treasury. I would ask how much this oil is going to cost. That is how I think as the chairman of the Finance Committee. What is it going to cost? That is No. 1. You just told me you do not know. Well, we ought to find out.

No. 2. Where are we going to get the money? That is how I would think, as Finance Committee chairman, and I would urge you to think that way as Secretary of the Treasury. Where is the investment going to come from?

It can come from one of two places: It will come from selling oil from wells and selling gas from wells in the main, or it will come out of the Federal Reserve. Otherwise, it will come from the banking system. The end result is the same.

It would seem to me, considering what the cost is and how it must be produced, you are going to either have to let people charge a price for the existing production that will bring the investment in, or you are going to have to borrow the money out of the banking system, or a combination of the two.

But I think that we ought to have some way of estimating what it will cost on a year-by-year basis and how we are going to get there. We can get there with taxes, perhaps, by taxing the money and reinvesting it in more energy sources.

I am going to tell you one thing. It will not advance production, to tax the money and to give it back to the consumer. If you are going to give it back, you should give it back in some form of investment and

more energy production, and improving homes so they would be more energy efficient. I do not think we should give it back to the middle-income taxpayers. The poor, if it is going to press them very hard, we ought to give it back to the middle-income and upper-income taxpayers. I do not see any point to rebating it to them. I do not see why we should give money back to a single member of this committee or any member serving on our committee staff. If we are going to give back the money, it should go back to the poor or return it to them in either an investment in producing more energy or investment in better conservation. I would hope that we can modify the bill in that direction.

You said that you wanted to make the bill a tougher bill; I applaud that, if we can put it in order. Does that appeal to you? Wherever we raise money, it will be invested either in more energy production or it would be invested in more conservation.

Secretary BLUMENTHAL. I certainly think that more conservation and more energy is a good thing. I do not want to carry it so far, Senator, as to agree with you that giving the companies a higher price for all of their oil is either necessary or desirable. A higher price than what we are proposing is either necessary or desirable to accomplish that objective.

There is one other element that we should all look at and that is what kind of cash flow is available to the companies, either what they are now getting or by what they could borrow or what kind of return they could borrow. Any businessman who has an investment opportunity cannot really expect to make all of the capital out of the price of his product.

He has to look at the price of his product and cash flow. I say this with some diffidence because I know you know a lot more about it than I do, coming from where you do. But I saw a report in Forbes Magazine, June 1, 1977, that talks about the huge cash flow that is available: Exxon, \$4 billion a year; Mobil, Texaco, Standard of Indiana, \$1.5 billion each. The industry capital exploration budget is \$30 billion available from the cash flow.

I think we have to look at that in order to see whether they need a higher price, as well.

The CHAIRMAN. Let us just think, for a moment of the unthinkable. Let us just think for a moment of what would happen if we had not had the Government to solve this energy problem for us. Suppose the Government had not been available to us to solve it.

When the Arabs imposed the boycott and they said that oil is going to cost \$13 a barrel where it used to cost \$2 or maybe \$3, a quadrupling in the price. If we had not had the Government to save us, what would have happened? It would have been the people of America, the American capitalists, who would have said, "At that price, we will break your cartel." It will not have taken very long. The most profitable thing to invest in would have been energy, and there would have been big profits in it. If one were ordinarily in the business of producing automobiles or something else, the idea of investing in energy production is what would appeal, because that is where the big profits would be.

Not only would the people who are in the business making big profits you are afraid of would reinvest because that is the most profitable

business they could reinvest in, but everybody who was not in the business would be getting into it, and there would be an enormous increase in production in energy of all sorts. There would not merely be a 25-percent or 50-percent increase. In 4 years there would have been a 300-percent increase in drilling in this country.

By that time, the boycott would have been broken, or the capacity to boycott would have been broken, and we would have been energy self-sufficient, least in the following 7 years.

But we worked on the theory that we must be sharing the burden. No one was allowed a big profit; that would have been unconscionable. The result is that, after 4 years of the Government's solving the problem, oil imports are now 50 percent more than when they were when it became obvious to us that the policy we had been pursuing was disastrous.

All I am speaking to, at this moment, is the thought that we ought to make it sufficiently profitable for people to invest their money into this business and to attract capital. The producing industry ought to be permitted to make enough to replace what they are producing.

The other approach, it would appear to me, would be to promise everyone cheap energy. That is what we have been saying for a long, long time. That is what got us into the situation.

It seems to me that we have to start thinking in terms of finding some way to attract enough capital or investing enough in to do the job. If you are not going to let the industry make enough profit to attract more capital, or you are not going to let them keep enough profit to expand the way we would like them to do, you would have to take it out of the banking system. Your administration ought to be finding a way to extract the money from the banking system rather than investigating in something else.

There should be more production of oil, gas, shale, coal, or whatever other energy sources are available. We ought to put a priority on production, rather than put the priority on holding down the price of the product. I think it is essential to raise the price of the product.

I cannot see that we have any plan at this time to commit what it is going to take to make this Nation self-sufficient, how much money is it going to take, how much time will it take year by year, and to commit that whatever it takes, we will provide it.

If you do not want to do it the way I suggest it, I would urge you to show us your own plan. I would like to see a solution to the problem, not just a matter of spinning our wheels and getting into a deeper rut. I would like to see us come out of it.

I hope that you would provide us with this information. What is it going to cost? How are we going to raise the money? Where is it going to come from, the banking system or new investment? How do you expect to induce it? Then, how many years would it take us to reach self-sufficiency if we would do it.*

Senator Matsunaga?

Senator MATSUNAGA. Thank you, Mr. Chairman.

Along the lines that the chairman has been following, Mr. Secretary, I am concerned about the administration's effort, or lack of effort, in

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seeking alternate sources of energy such as solar, geothermal, wind, and ocean thermal energy. About the only incentive, as I see it, under the administration's program is a 10 percent investment tax credit.

Businessmen have complained that the money market is sluggish. They cannot even obtain the capital to invest into these areas and, of course, they see no profit in the early years, even in the first 7 years. This means that the tax credit, even though an additional 10 percent is granted, will not mean anything to them.

A suggestion, as you probably recall in earlier testimony before this committee, has been made to grant a refundable additional 10 percent investment credit.

What is your view on this?

Secretary BLUMENTHAL. Senator, I do think that there are incentives in the program to promote the use of, say, geothermal energy to allow the expensing of intangible drilling costs, and also for providing incentives and rebates to individuals and businesses who want to shift to solar and wind energy, because here, really, the problem is the volume of use is so low that the cost is very high.

Therefore, as these incentives begin to work, the cost per unit will come down and an industry will develop which will be able to operate at a lower cost and at a higher level of efficiency.

These credits are intended, as I understand it—and I believe they were—to provide the incentives to do some of that, and therefore, it is something that I would support. That extra 10 percent credit can be offset up to 100 percent of the tentative tax liability, so that it is a very important and powerful tool.

Senator MATSUNAGA. Of course, the tax liability will not be there if there is no profit. This is the point I am getting at.

For 5 or 7 years, the business going into the development of these alternative sources of energy will not anticipate any profit. So, you see, the tax credit, unless it is refundable, would be meaningless to them.

Secretary BLUMENTHAL. I think that they would have a carryover so that they could carry it forward until they get into a profitable position, so that they would have some assurance there. Senator.

Senator MATSUNAGA. There is a carryover provision for how many years?

Secretary BLUMENTHAL. Five years.

Senator MATSUNAGA. One of the major parts of the administration's program, as I see it, is the conversion to coal. What is the estimated cost to industry if the administration's coal conversion program is fully carried out.

Secretary BLUMENTHAL. I do not believe I have that number handy, but I can supply it. I do not believe I have what the total cost to industry is.*

Senator MATSUNAGA. The cost of coal conversion to industry will be expectedly high, and the money market being sluggish as it is now, my question is where is industry going to get the money to purchase the equipment and meet the necessary expenses to convert?

Secretary BLUMENTHAL. The way the conversion pricing system has been set under this program, they would get tax benefits so that there

* (At presstime, Aug. 11, 1977, the information requested had not been received from the Department of the Treasury. See part 2, appendix B, for the responses.)

would be quite an important payout during conversion. So, on that basis, they could go and borrow the money. It would pay them to do so, because they would get a very good return on it.

Senator MATSUNAGA. Do you suppose on that basis that banks and loan institutions would be willing to make loans?

Secretary BLUMENTHAL. I think most banks are willing to make loans, if they can see that the borrower has a good way of investing them and getting a return on them, and I think these businesses would be able to show that the alternative, at a much higher cost, they can lower their cost, and out of their savings repay the debt and still make a profit. That would be the idea.

Senator MATSUNAGA. As I understand it, it is your proposal, whether it be the administration's or your personal proposal, that the crude oil and natural gas equalization taxes which terminate in 1982 under the administration's program should be continued and not be returned to the industry in the form of profits.

Is that your position?

Secretary BLUMENTHAL. We would be happy to see the equalization taxes extended through 1985, for the entire length of this program, and to have whatever disposition is made with regard to rebating coterminous with that time frame.

Senator MATSUNAGA. If the taxes go beyond 1982, what incentive are you providing to the producer of oil beyond 1982, when the increase in price is merely in the form of taxes and the producer himself sees nothing of that increased price?

Secretary BLUMENTHAL. There is a possibility—you are talking about old oil or new oil?

Senator MATSUNAGA. New oil.

Secretary BLUMENTHAL. The new oil, of course, there is the possibility to adjust the price of new oil as world prices change, although the President has the opportunity to put some limits on it.

Senator MATSUNAGA. Coming to old oil, I understand, in talking to some of the oil producers, that so-called old oil may be produced in greater quantities if some incentive is given to the producer.

Secretary BLUMENTHAL. Old oil would be adjusted only for inflation.

Senator MATSUNAGA. Only for inflation.

Secretary BLUMENTHAL. Yes.

Senator MATSUNAGA. What has been the position of the administration as to the claim on the part of industry that there can be a greater production of old oil if proper incentives are provided?

Secretary BLUMENTHAL. That is why we have included the provision of tertiary recovery and stripper wells also enjoy the new price, the much higher price, and that would presumably bring forth some additional production.

Senator MATSUNAGA. What is the estimated amount of increased oil recoverable from old wells with this type of incentive?

Secretary BLUMENTHAL. I think that is another number. In order to be accurate I will get it for you and present it.*

Senator MATSUNAGA. No further questions, Mr. Chairman.

The CHAIRMAN. Senator Talmadge?

* (At presstime, Aug. 11, 1977, the information requested had not been received from the Department of the Treasury. See part 2, appendix B, for the responses.)

Senator TALMADGE. Mr. Secretary, getting back to a point that I discussed with you in my previous comments, we are paying now \$13 a barrel for 7 to 8 million barrels of imported energy a day.

Occidental Petroleum Co., has estimated that they can produce petroleum from shale at \$12 a barrel. They have an experimental plant right now producing oil at 50,000 barrels a day. Is that correct?

Secretary BLUMENTHAL. I am not sure.

Senator TALMADGE. Secretary Schlesinger, the other day, testified that in his opinion converting shale back into petroleum costs \$18 to \$20 a barrel. Using his lower figure, it seems to me with a little research that could drastically be reduced.

Doing a little rough computation, the subsequent \$5 a barrel, whatever you want to put it, in depletion allowance or otherwise, would amount to \$35 million a day on the importation of 7 million barrels of petroleum from OPEC. On a 30-day month, that would be \$1,050 million. In 12 months, it would be \$12.5 billion.

That rough arithmetic, if you converted the shale oil into petroleum, would make us self-sufficient; it would break the OPEC boycott; it would provide the jobs here at home; it would save us \$42 billion a year in imported energy.

In other words, every time the Government spent 25 cents converting shale oil into petroleum, it would save \$1 in money that we sent to the OPEC nations.

Would that not be a better system than you recommended? Would it not make us self-sufficient? Would it not break the OPEC boycott? Would it not save us \$42 billion a year on our trade deficits?

Why would that not be a better solution than what you propose?

Secretary BLUMENTHAL. Senator, all I can say, if by spending \$12 billion a year, we would have to find the money someplace, we could achieve all of the things that you suggest, if that would work, I would be for it.

Senator TALMADGE. All right. Let us take it a step further now. Look at your statement on page 8. You have a table there that follows it, which is not clearly understood by me.

The first item there is gross crude oil equalization tax collections. I assume that that is your wellhead tax.

Is that not correct?

Secretary BLUMENTHAL. I am sorry. Which table are you referring to?

Senator TALMADGE. It is a table, not numbered. It follows page 8 of your statement, following the conclusion.

Secretary BLUMENTHAL. Your question is to gross crude oil?

Senator TALMADGE. It starts off crude oil and natural gas, liquids, equalization tax under title II of H.R. 8444, the National Energy Act.

Do you see that table?

Secretary BLUMENTHAL. I have it.

Senator TALMADGE. Column No. 1: Gross crude oil equalization tax collections. I assume that is the wellhead tax that you intend to propose on petroleum at the present time.

Secretary BLUMENTHAL. Right.

Senator TALMADGE. By 1980, that reaches \$11,294 million, is that correct?

Secretary BLUMENTHAL. That is correct.

Senator TALMADGE. By 1981, it is \$14,596 million?

Secretary BLUMENTHAL. Right.

Senator TALMADGE. Accumulated total from 1978 to 1982 is \$38,938 million?

Secretary BLUMENTHAL. Right.

Senator TALMADGE. Why would that tax not do what I stated?

Secretary BLUMENTHAL. You would have to take into account what happens to the economy as a whole if you take that much money out of the economy and from individuals whose bills have been increased and use them for a particular purpose rather than distributing it somehow back to these individuals, what happens to sales, purchasing power, and so forth.

I repeat, for \$12 billion taken from here, or from anywhere, if we could, with a tax of \$12 billion, a total of \$12 billion, achieve this kind of independence, solve our balance-of-payments problems and all of those things, I am for it.

Senator TALMADGE. You would be saving your \$42 billion that you are paying now in imported energy. You would be providing the jobs here in the United States of America rather than OPEC nations, and you would be making this country self-sufficient in energy, something that no one has projected to date.

It looks to me as if that is something worth considering, and I wish you would put your fertile mind working in that regard and see if we cannot come-up with something that would break OPEC on the one hand, save us \$42 billion a year in unfavorable trade on another, provide the jobs here in the United States of America, and make this country independent in energy, all at one fell swoop.

Is that not what we are all trying to achieve?

Secretary BLUMENTHAL. Absolutely. You make me very enthusiastic.

Senator TALMADGE. Would that not be far better than some scheme to refund \$48 a year to every individual in the United States per capita, including babes in arms?

Secretary BLUMENTHAL. I can only repeat, it would be a much better scheme than what I am suggesting if it could be done for \$12 billion.

Senator TALMADGE. Put your fertile mind to work on that now. It seems to me that that would be the proper approach, because, if Dr. Schlesinger was correct and your testimony is correct, even without reducing the cost of this energy, which I am confident that we can do with more research and development. Any nation that can mobilize its resources to build an atomic bomb, put a man on the moon, and after the Axis Powers seized Southeast Asia—I believe you were there at that time—mobilize its resources immediately to provide synthetic rubber because our war machine could not run without it can put the brains of the country together and use this much money, or less, to make this country independent in energy. I believe that is the proper approach.

It seems to me that that is what we ultimately want to achieve.

You know, and I know, that this country cannot continue to send \$42 billion a year overseas to a foreign entity. We particularly cannot do it for a group of bandits who recognize oil as a weapon and are threatening us with a boycott at any time. Any time that they impose

a boycott again, it will be much more severe than it was before. It will stop the wheels of industry in this country, which is something that is absolutely unthinkable.

We have to consider ultimate decisions rather than stop-gap decisions.

I am all for the conservation idea, but I do not think it goes far enough. I was questioning Dr. Schlesinger yesterday. We have got a 55-mile-an-hour speed limit in this country, which I voted for. It is the law today. Every time I drive on the expressway, if I am limited to 55 miles an hour I feel like my automobile is in reverse, and yet I know when I drive my automobile at a moderate rate of speed, I save 10 to 15 percent more energy than I do when I am driving 70, 75, 80.

Yet, our Government is doing absolutely nothing to enforce that law. Secretary Schlesinger told me that it came under Secretary Adams of the Transportation Department, for whom I have great admiration and affection. I believe that the Secretary will gently tell them that under the law, I am authorized to cut your highway funds. I think that we would have patrolmen all over the State enforcing the law.

That would give you a good deal of conservation right there.

Let us look at the suggestions I have made. I think if you explore it further, you will find it is cheaper and more productive and would make us energy independent.

Secretary BLUMENTHAL. I will certainly look into them very carefully.

Senator TALMADGE. Thank you.

No further questions, Mr. Chairman.

The CHAIRMAN. Senator Packwood.

Senator PACKWOOD. One question Mr. Secretary—and Dr. Woodworth can answer, if he wants.

I understand what the House has done, and it is a change from what the administration offers, under the rebate a single person gets a rebate, a married person gets a double rebate, head of household gets a double rebate. If you are head of household with two children, get divorced and split the kids, then you each get a double rebate. Wouldn't the Treasury's position be that this is a divorce incentive?

Secretary BLUMENTHAL. That is getting technical enough that Mr. Woodworth will have to take over.

Mr. WOODWORTH. Your analysis of the House bill is correct and the comments about it, I think, are also true.

Senator PACKWOOD. The administration's initial provision was a straight-out per capita rebate.

Mr. WOODWORTH. The administration's position is still in support of the per capita rebate.

Senator PACKWOOD. Which you would say is not a divorce incentive?

Mr. WOODWORTH. That is correct.

Senator PACKWOOD. I have no further questions, Mr. Chairman.

The CHAIRMAN. Mr. Secretary, I think Senator Talmadge has made a good point. I believe that it is also correct that what he is seeking to do can be done even cheaper with coal, could it not? My understanding is that oil can be made from coal a lot cheaper than from shale. Is that right or wrong?

Secretary BLUMENTHAL. I really do not know. I do not know enough about the technology of this to be able to answer that.

The CHAIRMAN. We will ask that an answer be obtained then, because I think that it is cheaper to do it with coal than to do it with shale. That is one of the alternatives that should be considered, and of course, if we remove some of the 4- to 6-year delay in the time that it takes to drill offshore for oil and gas, it could be quicker still.

Someone came to see me the other day and discussed the potential of solar energy, and it was a very simple matter: Solar has a lot of potential for the future, but for the time being, energy from fossil fuel is cheaper. So from his point of view, other than hot water heating in the Sun Belt area, in terms of what it costs to do it, heat is cheaper with the conventional fuels that we are using at the moment.

To me, it boils down to a question of price. The reason we are not using oil shale right now is that it would cost more to use shale than to use the other means available to us. That is the reason we are not using more solar right now: It would cost more to do it that way. We should be improving our methods. We ought to use the technology in the areas where it makes economic sense and where it works efficiently.

I certainly would like to see us go into shale in a big way, because I think it would do a lot of good. In time, that may well be our prime source of energy. We ought to at least experiment with it.

If we could find a way to expedite the time between when a person seeks to obtain a lease in the Atlantic Ocean or in the Gulf of Mexico and the time that he can drill it and bring it into production, that would be the cheapest alternative of them all, and that is the one that we would like to expedite.

You and I know why we cannot do that, because the Congress has been passing laws not to reduce the lead time for drilling but to increase it.

In the Gulf of Mexico, we are told that there is no permanent damage to the environment from offshore production, and the precautions that are taken against a blowout now are 10 times as effective as were used in the early days of offshore drilling.

The President recently visited an offshore oil rig. He saw the situation out there, that the fish are attracted to those rigs. You can just see fish all over the place, jumping up out of the water in some cases. On underwater closed circuit television drilling operators will show you the fish swimming around, right around the drilling pipe itself and around the rigs. Schools of fish swim all around the rig. They like that environment. Yet, we have people who object to offshore drilling. I hope that we can do something about it. Something ought to be done.

I wish that you would check the figures for us and give us your estimate in terms of what it would cost to solve this energy problem using coal and what it would take to solve this problem using shale.*

Senator Matsunaga?

Senator MATSUNAGA. One further question.

Yesterday it was brought up that the proposed rebates out of the standby taxes, alone would amount to \$28 billion. Is that correct?

* (At presstime, Aug. 11, 1977, the information requested had not been received from the Department of the Treasury. See part 2, appendix B, for the responses.)

Secretary BLUMENTHAL. I think that is about right. This is the standby gasoline tax, the 50 cents?

Senator MATSUNAGA. Right.

Instead of rebating \$23 billion, why not use the money for the development of alternative sources of energy such as solar energy? We are told that the development of solar electric energy is way off into the future because of the high costs involved. If you were to use this \$23 billion for the development of solar electricity to a point where it can be reasonably provided to the consumer, then I think that the Members of the Congress may be willing to go along with the tax. But you must use the tax for the purpose of increasing the production of energy domestically. I would be more than happy to support such a program rather than getting into this nightmarish rebate for every individual in the Nation.

I do not know whether the administration's position is irreversible at this time. If the Congress should come forth with such a program, would the administration be willing to accept it. In your capacity, Mr. Secretary, would you recommend a veto of such a bill?

Secretary BLUMENTHAL. I cannot really speak to that. I would have to see what the specific provision is, Senator.

I would say that we have what we think are adequate incentives for R. & D. and for the development of alternate sources of energy.

I would like, if you wish, to present perhaps a summary to the committee, and to you, showing the amount of R. & D. that is spent for the development of shale, for coal, for solar, because there is a level beyond which spending more money is not going to get you very much.*

The additional payout from spending additional moneys is not very great, so that I think that you can see that substantial moneys are being spent privately and supported publicly through Federal funds, and if you put those amounts alongside the incentive for geothermal and other conversions to coal that are in there, we think that they are adequate and we are concerned about taxing middle America, the lower-to-middle-income taxpayers, and not giving them the money back in some way. We would be concerned about that.

Senator MATSUNAGA. Assuming that the administration's program, as proposed, would be adopted by the Congress and enacted into law, what would be the increase in the cost of living for the average citizen?

Secretary BLUMENTHAL. We think it is about 0.2 percent to 0.3 percent in the rate of inflation.

Senator MATSUNAGA. Two-tenths percent to three-tenths percent?

Secretary BLUMENTHAL. Per year.

Senator MATSUNAGA. No further questions, Mr. Chairman.

The CHAIRMAN. Thank you very much, Mr. Secretary, for your testimony here. I think we all owe it to you to carefully read every word that you have in your prepared statement.

The problem is very challenging, and we look forward to working with you.

I just want to add one additional point. If some of us on this committee can find it within our hearts to lead the charge for a tougher bill than you have here, I hope that you will not be in the position of just saying, "Well, the Treasury does not oppose the amendment," and that you can find the courage to help toughen this bill. I hope you

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would help increase the gas guzzler tax, or find the political courage to make this bill more realistic in meeting the energy shortage.

I hope that if we are willing to charge up the hill and try to do something more than the House did about this matter that we will not see you back down at the bottom of the hill saying that you have no objection. We would like to have you in the troops charging up against the ramparts saying that you are all for this effort.

I do not enjoy leading charges of the Light Brigade. To me it is not pleasing to have a lot of soldiers shot down to be back to where I started from.

If we are going to try it, I hope that we can have the affirmative support of the Treasury, not just a "no objection."

Secretary BLUMENTHAL. Senator, it all depends in which direction you are charging. If you are charging in the right direction, I can assure you that Treasury will be right abreast of you and, in any case, I certainly promise you that we will work very closely with you and do all that we can to support and in improving and toughening the bill.

Senator MATSUNAGA. I must say, Mr. Chairman, appearances are deceptive, because you appear to be really enjoying leading the charge.

The CHAIRMAN. Everett Dirksen used to tell a story that he said he heard from my father. It had to do with a man who was facing death, who wrote down the inscription he wanted on his tombstone. It went something like this: "Remember, man, as you pass by that as you are, so once was I. Prepare for death, and follow me."

His wife looked at that tombstone after he was gone and she said, "Well, if I am going to lie beneath the same stone, I would like a couple of more lines on it. 'To follow you, I am not content, until I know which way you went.'"

We will try to let you know which way we hope to head.

Thank you very much.

Secretary BLUMENTHAL. Thank you very much, Mr. Chairman.

The CHAIRMAN. The committee will stand in recess.

[The prepared statement of Secretary Blumenthal follows:]

STATEMENT OF HON. W. MICHAEL BLUMENTHAL, SECRETARY OF THE TREASURY

Mr. Chairman and members of this distinguished committee, it is an honor to appear before you to discuss the National Energy Plan.

THE NEED FOR AN ENERGY PLAN

The plan answers a clear need for a concerted national attack on our energy problems.

Our dependence on imported crude oil has been rising steadily. Today almost one-half of the oil consumed in the United States is imported. Much of our imported oil comes from insecure foreign sources. Importing this amount of oil also has serious balance of payments effects: the estimated \$25 billion trade deficit for the current year would be a surplus of about \$20 billion if we imported no fuel.

Even disregarding these international considerations, we face an obvious peril: Our consumption of oil and gas is growing considerably faster than are proven domestic and foreign reserves. Unless restraint is shown now, and we prepare to shift to alternative energy sources, we risk potentially severe shortages of oil and gas.

The National Energy Plan aims to encourage energy conservation, the substitution of alternative fuels for oil and gas, and increased production of all forms of energy.

Conservation lies at the center of the Plan. We are not seeking an absolute reduction in energy consumption. Rather, we are aiming to reduce the rate of increase in energy consumption to less than 2 percent per year. This is a feasible, prudent, and essential objective. It poses no threat to our equally important economic objectives.

Conservation is to be achieved by making consumers of oil products pay the replacement cost of their consumption, by substituting more efficient modes of transportation for less efficient ones, by taxing businesses on their use of oil and gas, and by providing tax incentives for insulation and for other improvement outlays to improve energy efficiency.

The substitution of coal and other fuels for oil and gas is to be achieved by providing an incentive in the tax system for businesses to convert to these alternative fuels. Solar, wind, and geothermal energy sources will also be favorably treated to encourage greater residential and industrial use.

Additional production will be stimulated by allowing newly discovered oil to be priced at world price levels and by providing an incentive price for newly discovered natural gas.

THE PLAN'S PROVISIONS

In general, the House did an admirable job with the energy bill. However, there are some areas where additional measures need to be considered. Additional energy savings can be accomplished by changes that I would like to offer to the Committee for their consideration.

Crude oil equalization tax

The importance of the crude oil equalization tax cannot be overestimated. The tax would insure that by 1980 consumers of oil pay the true replacement cost of their consumption. This is clearly necessary to achieve conservation and to stem imports.

While promoting conservation, the National Energy Plan will also encourage the development of domestic oil and gas resources. This is because newly discovered oil—so-called new new oil—can be sold, free of the tax, for the world market price of \$13 a barrel, or more. This price factor is a powerful incentive and provides domestic oil producers a profit margin that is among the highest in the world for the production and exploration of new oil.

The bill provides a similar incentive to remove a higher percentage of oil from existing fields. This results from allowing oil from stripper wells and oil obtained by tertiary production to be sold at the world price, without the payment of any crude oil tax.

These price incentives are fully adequate to encourage and reward new production. The House wisely rejected all attempts to give the oil producers part of the crude oil tax to plow back into oil and gas production. The Administration strongly opposes a plowback. A plowback would unbalance the program both economically and in terms of equity. Such a scheme would defeat the purpose of the crude oil tax, which is to raise the price of new oil to consumers but at the same time to reimburse the average consumer for his consequent loss of purchasing power. The prospect of \$13 a barrel oil will bring forth exploration, discovery, and production of new oil. A plowback provision would simply be a windfall to producers, who currently have adequate capital for exploration and development.

The House version of the crude oil tax does need some improvement. First, it would be better if the tax were extended beyond 1981; we should not leave producers and consumers in a state of uncertainty about our long-term policy in this vital area. Second, the rebate of net proceeds of the tax should be a permanent feature, rather than stopping after one year. Finally, it would be better if the credit system were on a per capita rather than a per taxpayer basis: The tax affects the purchasing power of all consumers of oil products, not merely those consumers who pay income tax.

The House credit oil tax is expected to raise \$38.9 billion during the period 1978 through 1982. However for one year at least, the amount collected under the House bill will be repaid to the consumers. On a net basis, this brings the collections down to \$27.5 billion. The energy savings associated with this tax is estimated at about 280,000 barrels of oil per day by 1985.

Transportation

In the transportation sector, the Administration's objective is to encourage the shift away from energy inefficient means of transportation. Our major proposal in this sector was the gas guzzler tax and rebate. We are not suggesting the restoration of the rebate. We do ask the Senate to strengthen the House version of the gas guzzler tax itself. We ask the Committee to consider imposing somewhat higher taxes than does the House bill.

We believe that a strong gas guzzler tax is the key to achieving more rational and efficient use of automobiles. Reducing the number of gas guzzlers on the road will make the gasoline available for domestic consumption provide more transportation than is true with our current fleet of automobiles.

Strengthening the gas guzzler tax is important to our program, since we believe the current standards will not achieve the necessary savings. We need to keep the pressure on gas guzzling automobiles until the national automobile stock is truly fuel efficient. We also need to apply the gas guzzler tax to the smaller trucks, which can be inefficient and contribute to the problem along with gas guzzling automobiles.

In the transportation area, the House added several provisions. It extended the current 4-cents per gallon excise tax on gasoline beyond 1979, repealed the personal deduction for state and local gasoline taxes, repealed the excises on buses and bus parts, revised the tax on motor boat fuels, removed the discriminatory tax on new oil used in re-refined lubricating oil and provided a credit for the purchase of electric cars. We consider these reasonable measures to promote more efficient modes of transportation and better use of oil.

The energy saving for these provisions is estimated at 275,000 barrels of oil per day. The total revenue gain of the various transportation proposals is \$29.5 billion for the period 1978 to 1985. However, \$21.2 billion of this amount merely represents an extension of the present 4-cent tax on gasoline scheduled to be reduced 1½ cents in 1979. Presently, this is a source of revenue for the Highway Trust Fund.

Tax on business use of oil and gas

The oil and gas use tax on industry and the utilities was designed to achieve energy conservation and conversion to energy sources other than oil and gas. Industries and utilities consume oil and gas in many activities where coal and other nonfossil fuels could be used. The House use tax, while providing incentives for conversion and conservation, falls short of the use tax we would like to see enacted. The level of use tax on oil passed by the House varies depending upon whether the industrial process has conversion potential, conservation potential or is a utility.

The gas tax passed by the House is a variable tax based on the difference between the user's acquisition price and the cost of a Btu equivalent amount of distillate oil. For utilities, however, the gas tax would be a flat tax such that the price of gas to a utility including the tax cannot exceed the price of residual oil.

To encourage conversion to coal and other fuels, a rebate of this tax up to the annual user tax liability is allowed for qualified expenditures in boilers, burners and other equipment which do not use oil or gas. In lieu of the rebate, an additional 10-percent investment tax credit would be allowed.

Where a utility elects to use the rebate option, a state utility commission could require a utility to pass the benefit of this rebate on immediately to consumers. On the other hand, if the utility elects the investment credit, the benefit of the credit can be passed on to the consumer only over the life of the asset.

There are several areas where the use tax passed by the House should be improved. First, all industrial gas should be taxed at a rate which makes the price of gas in all cases equivalent on a Btu basis to distillate fuel oil, without exemptions. When applied in this fashion, the use tax works as a pricing mechanism, which makes industrial users pay the replacement cost of gas rather than an artificially low price, which encourages excessive use. This tax should apply to all users without any exceptions except for the small user (50,000 barrels of oil equivalent per year) exemption.

Second, we believe that a rebate of the utility tax should be conditioned on the benefit of the rebate not being passed on to the consumer any faster than ratably over the life of the asset. This would make the treatment consistent with the treatment provided for the investment credit, which the utilities at their option may take in place of the rebate.

Third, in place of the industrial oil use tax proposed by the House, we suggest a simplified single tier tax on boilers, turbines and kilns, incorporating the House's tax schedule, which starts at 30 cents a barrel and in 1985 goes up to \$3 a barrel. The only special exemption would be for current facilities unable to convert for environmental reasons.

The House bill on a net basis—after the rebate—would collect \$2.0 billion over the period 1979 to 1985. There would also be a revenue pickup from the denial of the regular investment credit on that financed out of the rebate. Finally, it is estimated the bill will save 1.0 to 1.4 million barrels of oil equivalent per day by 1985.

Residential energy credit

The residential energy credit provides incentives for homeowners and renters to buy energy conservation equipment and solar and wind energy equipment.

The President has set a goal of insulating by 1985 90 percent of the homes that presently have insufficient insulation. The credit provided by the House bill goes a long way toward the fulfillment of this objective. Expenditures for insulation, storm doors and windows, clock thermostats, exterior caulking and weather stripping and certain modifications to furnaces qualify for the credit.

The solar and wind credit is designed to interest more homeowners in alternative energy sources. Both the solar and wind energy industries are in their infancy. The potential benefits to all Americans from developing use of solar and wind devices are great and justify a temporary tax incentive. The present cost of solar and wind energy installations is high because demand is currently low. This tax incentive will encourage more Americans to turn to these inexhaustible energy sources and will help these industries develop to the point where government incentives are not longer necessary.

The cumulative cost for the residential credits will amount to \$4.8 billion for the period 1978 through 1985. It is projected that these proposals will save about 500,000 barrels of oil per day by 1985.

Business energy tax credits

The House also approved a series of business energy tax credits. These credits are designed to promote the use of energy efficient insulation, to encourage commercial and industrial use of solar and other alternative resources, and to promote recycling and cogeneration. Expenditures in these areas will qualify for an additional 10-percent investment tax credit above the credit for which they otherwise qualify. The House also conserved energy at the same time it also reduced the revenue loss by denying accelerated depreciation and the investment tax credit to air conditioners, space heaters and boilers fueled by natural gas or oil. We endorse these House initiatives.

The expected net revenue cost of these credits is \$2.5 billion from 1978 through 1985. The energy savings is about 350,000 barrels of oil equivalent per day.

Supply incentives

The House adopted two proposals in the National Energy Plan relating to the supply of energy resources. First, the House accepted a proposal to make permanent a provision that applies the minimum tax to intangible drilling costs for oil and gas only to the extent that such costs exceed the sum of the taxpayer's income from oil and gas production plus the result of 10-year amortization of these costs.

The second provision allows the expensing of geothermal intangible drilling costs, which extends to geothermal resources the treatment accorded oil and gas. Also, the House provided percentage depletion for geothermal resources, but only at a 10-percent rate, and only to the extent of basis in the property.

Together these provisions will cost \$600 million through 1985. The geothermal provisions should save 60,000 to 110,000 barrels of oil per day.

CONCLUSION

Mr. Chairman, the National Energy Plan is in large measure a tax program. There are non-tax aspects also, but the Plan relies crucially on a battery of new taxes and new tax credits to move our economy away from its present, dangerous position of over-consumption of oil and gas.

As you know, I am generally opposed to using the tax code to further non-tax objectives. In the not too distant future, I will be back before you to urge a major simplification of the income tax code. But in the case of energy, the basic problems are so urgent and the alternative solutions so unsatisfactory, that resort to tax incentives is clearly proper, indeed essential.

We could have relied entirely on market incentives coupled with total deregulation of oil and natural gas prices. But, given the present distortion of world markets, this approach would have created enormous and unjust windfalls throughout our economy. The American people, with justification, would have rejected such an approach out of hand. The other alternative was to rely solely on physical controls, directives, and regulations. But this would have created a giant bureaucracy and injected the heavy hand of government regulation into every facet of the economy.

Thus, the only reasonable, fair, and effective solution lies with the tax system. The Administration and the American people are now looking to this Committee, with its well-known expertise, experience, and sense of responsibility in matters of taxation, for a solution to the most serious problem facing the nation. I hope to work closely with you in dealing with this challenge.

Thank you.

CRUDE OIL AND NATURAL GAS LIQUIDS EQUALIZATION TAX UNDER TITLE II OF H.R. 8444, THE NATIONAL ENERGY ACT AS PASSED BY THE HOUSE OF REPRESENTATIVES—RELATIONSHIP OF THE GROSS TAX TO AMOUNTS AVAILABLE FOR CREDITS AND PAYMENTS

(In millions of dollars)

	Fiscal years—					
	1978	1979	1980	1981	1982	1978-82
Gross crude oil equalization tax collections.....	1,897	6,349	11,294	14,596	4,802	38,938
Reduced refiners' income tax.....	-305	-971	-1,720	-1,844	-900	-5,840
Refund for oil used to produce natural gas liquids at refineries.....	-29	-97	-168	-211	-68	-573
Refund for heating oil:						
Homes.....	-82	-476	-688	-793	-181	-2,220
Hospitals.....	-9	-54	-80	-91	-20	-254
Per taxpayer credits.....	-1,819	-780				-2,599
Net receipts effect.....	-347	3,971	8,638	11,557	3,633	27,452
Special payments to qualified recipients.....		-866				-866
Net budget effect.....	-347	3,105	8,638	11,557	3,633	26,586

Source: Office of the Secretary of the Treasury, Office of Tax Analysis, Aug. 8, 1977.

EXCISE TAX ON BUSINESS USE OF OIL AND NATURAL GAS UNDER TITLE II ON H.R. 8444, THE NATIONAL ENERGY ACT, AS PASSED BY THE HOUSE OF REPRESENTATIVES—RELATIONSHIP OF TAX WITHOUT INVESTMENT REBATE TO FINAL TAX¹

(In millions of dollars)

	Fiscal years—							
	1979	1980	1981	1982	1983	1984	1985	1979-85
Tax without rebate for qualified investment.....	1,734	2,796	3,642	4,678	7,574	8,524	28,948	
Qualified investment rebate.....	-1,298	-2,686	-3,421	-3,890	-6,651	-7,506	-25,552	
Reduced industry income tax ²	-25	-38	-22	-57	-96	-110	-140	-488
Net effect on receipts.....	-25	308	88	164	592	813	878	2,908

¹ Industry and utility taxes.

² Results from less than full passthrough of tax to prices.

Source: Office of the Secretary of the Treasury, Office of Tax Analysis, Aug. 6, 1977.

ESTIMATED RECEIPTS EFFECTS OF TITLE II OF H.R. 8444, THE NATIONAL ENERGY ACT, AS PASSED BY THE HOUSE OF REPRESENTATIVES

[In millions of dollars]

	Fiscal years—								
	1978	1979	1980	1981	1982	1983	1984	1985	1978-85
Pt. I, residential energy tax credits:									
Credit for insulation and other energy-conserving components.....	-361	-466	-491	-518	-546	-576	-608	-541	-4,107
Credit for solar and wind energy expenditures.....	-26	-54	-62	-71	-87	-111	-140	-169	-720
Total, pt. I.....	-387	-520	-553	-589	-633	-687	-748	-710	-4,827
Pt. II, transportation tax provisions:									
Gas guzzler tax.....		100	100	100	135	150	160	170	915
Repeal of deduction for State and local tax on gasoline.....	115	780	859	944	1,039	1,143	1,257	1,383	7,520
Extension of existing tax rate on gasoline and other motor fuels.....			3,302	3,404	3,496	3,585	3,677	3,772	21,236
Amendment of motorboat fuel provisions.....	1	4	4	4	4	4	4	4	29
Repeal of excise tax on buses.....	-13	-9	-9	-9	-9	-9	-9	-9	-76
Repeal of excise tax on bus parts.....	-3	-3	-3	-3	-3	-3	-3	-3	-24
Removal of excise tax on certain items used in connection with buses.....	-13	-13	-13	-13	-13	-13	-13	-13	-104
Credit for qualified electric motor vehicles.....	(?)	(?)	-1	-1	-2	-4			-8
Total, pt. II.....	87	859	4,239	4,426	4,647	4,853	5,073	5,304	29,488
Pt. III, crude oil equalization and natural gas liquids tax:²	-347	3,971	8,638	11,557	3,633				27,452
Business use of oil and natural gas:									
Pts. IV, V, excise tax on business use of oil and natural gas:³									
Industry.....		-25	398	88	164	592	715	784	2,716
Utility.....							98	94	192
Total, pts. IV, V.....		-25	398	88	164	592	813	878	2,908

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Pt. VI, denial of investment credit on property financed with credit:									
Industry.....	57	184	238	231	261	298	345	1,614	
Utility.....					34	73	69	176	
Total, pt. VI.....	57	184	238	231	295	371	414	1,790	
Total, business use of oil and natural gas.....	32	582	326	395	887	1,184	1,292	4,698	
Business credits, Pt. VI, excluding denial of investment credit on property financed with credit:									
Alternative conservation and new technology credits.....	-409	-415	-516	-673	-789	-491			-3,293
Investment credit denied, and depreciation limited to straight line on oil or gas burning equipment, and air-conditioning and space heaters.....	93	111	121	114	103	99	93	88	822
Total, business credits.....	-316	-304	-395	-559	-686	-392	93	88	-2,471
Pt. VII, miscellaneous provisions:									
Treatment of intangible drilling costs for purposes of minimum tax.....		-32	-37	-42	-48	-56	-65	-74	-354
Option to deduct intangible drilling costs on geothermal deposits.....	-5	-10	-17	-21	-20	-20	-32	-54	-179
10-pct depletion in case of geothermal deposits.....	-1	-1	-1	-2	-2	-2	-2	-2	-13
Refined lubricating oil.....	-3	-3	-3	-3	-3	-3	-3	-3	-24
Total, pt. VII.....	-9	-46	-58	-68	-73	-81	-102	-133	-570
Total, receipts effects, pts. I-VII.....	-972	3,992	12,453	15,093	7,283	4,580	5,500	5,841	53,770

¹ Less than \$500,000.
² Tax net of business income tax offset and refunds and after per taxpayer credits.
³ Tax net of income tax offset and rebates.

Source: Office of the Secretary of the Treasury, Office of Tax Analysis, Aug. 8, 1977.

SUMMARY OF TAX PROVISIONS OF H.R. 8444

A. RESIDENTIAL ENERGY CREDIT

1. General provisions

A nonrefundable Federal income tax credit is provided for individuals who make certain energy-related expenditures. The credit is available for installations of qualified property made from April 20, 1977 through December 31, 1984. Qualifying installations may be made only with respect to the principal residence of the taxpayer and only if that residence is located in the United States. Thus, installations made with respect to vacation homes will not qualify. If less than 80 percent of the use of a residence is solely for residential purposes, a proportionate allocation of expenditures must be made to the nonresidential use. The amount of expenditures eligible for the credit must be reduced by any prior expenditures taken into account in determining the credit.

Owners (including co-op and condominium owners) as well as renters are eligible for the credit. A change of principal residence restarts the amount of qualified expenditures eligible for the credit. The credit must be allocated where a single principal residence is jointly occupied. For administrative convenience, no credit of less than \$10 per return will be allowed. All eligible property must meet performance and quality standards prescribed by the Secretary of the Treasury which are in effect at the time of acquisition. The original use of the property must commence with the taxpayer. To the extent that the tax basis of the residence is increased by the qualifying expenditures, the basis must be reduced by the amount of any credit allowed.

2. Energy conservation credit

This portion of the credit is available only for residences substantially completed before April 20, 1977. The amount of the credit is equal to 20 percent of the first \$2,000 of qualified expenditures on insulation and other energy-conserving components (including original installation thereof) for a maximum credit of \$400. Insulation means any item that is specifically and primarily designed to reduce the heat loss or gain of the residence or a water heater therein, and which may reasonably be expected to remain in operation for at least 3 years. This would include attic, floor, and wall insulation made of fiberglass, rock wool, cellulose or styrofoam. Energy-conserving components include a replacement burner for a furnace that provides increased combustion efficiency, devices to modify flue openings, furnace ignition systems that replace a gas pilot light, exterior storm or thermal doors or windows, clock thermostats, and exterior caulking or weatherstripping of windows and doors. The Secretary of the Treasury may add to the list of energy-conserving items other items that are designed to increase energy efficiency.

3. Solar and wind energy credits

This portion of the credit is available for new as well as existing residences. The amount of the credit is equal to 30 percent of the first \$1,500 and 20 percent of the next \$3,500 (for a maximum total credit of \$2,150) of qualified expenditures on solar and wind energy equipment, including certain labor costs allocable thereto. Expenditures on new and reconstructed dwellings are treated as having been made when original use begins. Eligible property must reasonably be expected to remain in operation for at least 5 years.

Qualified solar energy property uses solar energy for the purpose of heating or cooling the residence or providing hot water for use therein. Qualified wind energy property uses wind energy for any nonbusiness residential purposes. Back-up systems of conventional heating or cooling equipment and expenditures properly allocable to swimming pools are not included in this credit.

B. TRANSPORTATION

1. Gas guzzler tax

A manufacturer's excise tax is imposed upon the sale of new automobiles based upon their EPA-certified fuel efficiencies. The tax first applies to 1979 model year automobiles with fuel efficiencies of less than 15 miles per gallon. The minimum fuel efficiency above which no tax is imposed increases each year so that, for model years 1985 and thereafter, the tax applies to automobiles whose fuel efficiency is less than 23.5 miles per gallon. (These threshold levels range from 3 to 5.5 miles per gallon below the fleetwide average standards imposed

under the Energy Policy and Conservation Act.) The tax applies to automobiles with gross vehicle weights of not more than 6,000 pounds, but does not apply to trucks with a cargo capacity of at least 1,000 pounds.

The tax on automobiles with a given fuel efficiency increases each year. For example, the tax on a 14-mile-per-gallon automobile starts at \$339 for the 1979 model year, increases to \$428 the next year, and increases further to \$2,688 for 1985 and later model years. The maximum rate of tax applies to automobiles with less than 13 or 12.5 mile-per-gallon efficiencies, and ranges from \$553 for the 19.9 model year to \$3,856 for the 1985 model year.

The tax applies to new and used imported cars, according to their model year, and is imposed on the importer. Where automobiles are leased by the manufacturer, the first lease is treated as a sale subject to the tax. The amount of the gas guzzler tax may not be included in the owner's tax basis for the automobile for any purpose. Thus, no income tax benefit may be derived from payment of the gas guzzler tax, thereby excluding investment tax credit and depreciation benefits.

All gas guzzler tax revenues are to be deposited into a Public Debt Retirement Trust Fund, the proceeds of which are to be used to retire obligations of the United States that are included in the national debt.

2. *Repeal of personal deduction for State and local taxes on gasoline and other motor fuels*

Effective after December 31, 1977, the personal deduction for State and local taxes on gasoline and other motor fuels is repealed.

3. *Extension of excise tax on gasoline and other motor fuels*

The Federal excise tax of 4 cents per gallon on gasoline and other motor fuels will be continued at that rate through September 30, 1985. This tax is currently scheduled to be reduced to 1½ cents per gallon after September 30, 1979. The Committee took no action with respect to the Highway Trust Fund, which is scheduled to be phased out after September 30, 1979. Accordingly, after that date, gasoline tax receipts will be paid over into the general fund of the Treasury.

4. *Amendment of motorboat fuel provisions*

The Act repeals the 2-cents-per-gallon refund payment to the purchaser of gasoline and special motor fuels used in a motorboat. The motorboat fuel payment is presently made because this is a nonhighway use of gasoline. The Act conforms the tax on motorboat use of fuel to the tax on highway use. Following the treatment accorded to the current 2-cents-per-gallon tax, the increased tax on motorboat fuel will also go into the Land and Water Conservation Fund.

5. *Repeal of excise tax on buses and bus parts*

The 10-percent excise tax on sales of buses and the 8-percent excise tax on sales of bus parts and accessories will be repealed. Floor stocks refunds (as of the date of enactment) and consumer refunds (as of April 20, 1977) are provided where the 10-percent excise tax has already been paid. Parts and accessories that may be interchangeable between trucks and buses will continue to be taxed on sale unless the purchaser provides an exemption certificate which indicates that the part or accessory is purchased for use on a bus.

6. *Removal of excise taxes on items used with certain buses*

The Act repeals the excise taxes on tires, inner tubes and tread rubber, gasoline and other motor fuels, and lubricating oil sold for use with intercity, local, and school buses. With respect to these excise taxes, this action places private transit and private school bus operators on a par with governmental and nonprofit school bus operators.

This action applies to an intercity or local bus, and a school bus. The term "intercity or local bus" means a bus used predominantly in furnishing passenger land transportation to the general public for compensation if such transportation is scheduled and along regular routes or the passenger seating capacity of the bus is at least 20 adults, not including the driver. The term "school bus" means a bus substantially all the use of which is in transporting students and employees of schools.

7. *Tax credit for electric motor vehicles*

New electric cars acquired for personal use after April 20, 1977, and before January 1, 1983, will be eligible for a Federal income tax credit of the first \$300

of the purchase price. A qualified electric motor vehicle is a four-wheeled vehicle manufactured primarily for use on public roads that is powered primarily by an electric motor which draws current from rechargeable storage batteries or other portable sources of electrical current.

C. CRUDE OIL EQUALIZATION TAXES AND REBATES

1. Crude oil equalization tax

An excise tax is imposed on the first purchase (generally, by the refiner) of domestically-produced crude oil. The purpose of this tax is to increase the cost of such oil to the world market price. The definition of crude oil subject to the tax is substantially similar to the definition found in current price control regulations. The tax applies to crude oil produced in the United States, Puerto Rico and the possessions, and on the related continental shelf areas.

The tax is brought into effect in three annual stages. In 1978 and 1979, the tax is imposed on lower tier controlled oil only, and is equal to 50 percent (1978) or 100 percent (1979) of the difference between the ceiling price of upper tier oil and the ceiling price of lower tier oil of the same classification. In 1980 and thereafter, the tax applies to all controlled crude oil, and is equal to the difference between the controlled price and the world market price for crude oil of the same classification. The tax terminates after September 30, 1981. Lower tier oil is the amount of oil produced on a property, up to the lesser of 1972 or 1975 production, and is now controlled at an average price of \$5.16 per barrel. Upper tier oil is oil produced on a property in excess of the lower tier production level. Upper tier oil is now controlled at an average price of \$10.97 per barrel.

Crude oil used in the production of crude oil, natural gas liquids, or natural gas is not subject to the tax. In addition, the crude oil tax does not apply to the extent crude oil is refined into products that are in turn used in the production of crude oil, natural gas liquids, or natural gas.

A credit or refund of the crude oil tax is also provided for crude oil that is used as a raw material to produce natural gas liquids, but only if the refiner demonstrates that he has not passed on the crude oil tax attributable to his production of natural gas liquids.

2. Natural gas liquids equalization tax

This tax is imposed after December 31, 1977, on sales for end use (as opposed to first purchases), and on certain uses where there is no prior sale, of natural gas liquids. The tax applies to liquids sold or used in the United States, Puerto Rico and the possessions, and in the related continental shelf areas. The purpose of this tax is to bring the price of controlled natural gas liquids up to the price of energy-equivalent No. 2 distillate oil. Accordingly, the tax is based upon the difference between the price for No. 2 distillate in the region in which the taxable sale or use occurred (adjusted for differences in energy content and seasonal variations price) and the controlled price of the natural gas liquid. The tax is brought into effect in three equal annual stages in 1978, 1979, and 1980. The tax terminates on September 30, 1981.

Exemptions are provided for agricultural uses, uses in a residence, hospital, school, or church, and use as a feedstock in the production of natural gas liquids.

3. Presidential authority to suspend equalization taxes

The President is granted authority to suspend all or any part of an equalization tax increase which would result from an increase in the world price of oil where such tax increase will have a substantial adverse economic effect. A tax increase suspension may not exceed a period of 1 year, and is subject to veto by either house of Congress within 15 legislative days after submission by the President of a plan implementing such suspension.

4. Crude oil tax credits, special payments, and refunds

Tax credits.—The net receipts from the crude oil equalization taxes in 1978 will be allocated to each adult. Net receipts are equal to gross revenues derived from these taxes, less: (a) the reduction in Federal income taxes resulting from the imposition of the crude oil taxes, (b) the administrative costs related to the tax credit, special payment, and refund programs, (c) the amount of the heating oil refund, and (d) the amount of the refund to refiners for refining crude oil into natural gas liquids.

Single taxpayers and married persons filing separately will each be entitled to one tax credit. Married persons filing joint returns and heads of households will be entitled to two credits. The tax credits are limited to the taxpayer's tax liability, except for taxpayers entitled to the earned income credit. Withholding tax schedules for 1978 will be adjusted to reflect these tax credits. Estates, trusts, and nonresident alien individuals are not entitled to this credit.

Special payments.—Special payments are provided for adults who are not taxpayers. These payments will be made in May or June of 1979 to recipients of benefits under Social Security, Railroad Retirement, and supplemental security income programs. To the extent not covered under these programs, individuals may receive payments through State aid to families with dependent children programs. The amount of the special payment is equal to the amount of the tax credit referred to above, reduced by the amount of any crude oil tax credit claimed by the individual. Adults who do not receive a tax credit or a special payment may file an appropriate form with the Secretary of the Treasury in order to receive the payment.

Lump-sum payments are also authorized for the governments of Puerto Rico and the possessions if acceptable plans are submitted to the Secretary of the Treasury for the distribution of amounts under programs similar in effect to the tax credit and special payment programs described above. These lump-sum payments are in lieu of individual tax credits and special payments.

Refunds.—An exemption is provided from the crude oil equalization tax for heating oil used in residences, churches, schools, and hospitals. Distributors of heating oil for such uses will receive a refund of the equalization tax for each gallon sold provided that the amount of the refund is passed through completely to the customers in the form of lower prices.

5. Miscellaneous

Study of small and independent refiners.—The Secretary of Energy is to conduct a study of the impact of the crude oil tax on the competitive viability of small and independent refiners. The Secretary is to report to the Congress not later than 90 days after the date of enactment of the tax with his findings, together with legislative recommendations.

Natural gas contracts.—The crude oil taxes are not to be taken into account for purposes of determining or redetermining natural gas prices under any contract which was entered into before the date of enactment of the Act.

D. TAX ON BUSINESS USE OF OIL AND GAS AND RELATED CREDIT

1. Use tax

In general.—An excise tax would be imposed on the use after December 31, 1978, of oil or natural gas as fuel in a trade or business. Three different sets of tax rates are provided: the highest rates (referred to as tier 2) apply where conversion to a fuel other than oil or gas is feasible; a lower industrial rate (tier 1) applies where conservation in fuel consumption is feasible; and a third rate (tier 3) applies to electric utility use (including production of steam by an electric utility), certain industrial electric generating use and use in a qualifying cogeneration facility. Tier 2 applies generally to uses in a boiler or in a turbine or other internal combustion engine, except for such uses classified in tier 3. Tiers 1 and 2 apply to uses in 1979 and thereafter; tier 3 applies to uses in 1983 and thereafter.

Tax on oil.—The tier 2 tax begins at 30 cents per barrel in 1979, and increases to \$3 per barrel in 1985 and later years. The tier 1 rate begins at 30 cents per barrel in 1979, and increases to \$1 per barrel in 1981 and later years. Tier 3 uses are taxed at a rate of \$1.50 per barrel in 1983 and later years. Inflation adjustments apply to 1981 and later year rates. Oil subject to the tax includes crude oil, refined petroleum products, and natural gas liquids (other than liquids which have an API gravity of 110 or more) but excludes natural gas, gasoline, and substances that are not generally marketable for use as a fuel.

Tax on natural gas.—A variable tax is imposed, based upon the difference between a target price and the user's acquisition cost for natural gas. The purpose of this variable tax system is gradually to raise the price of natural gas to slightly less than the price of energy equivalent oil. Accordingly, the target price is based upon the cost of all No. 2 grade distillate oil sold in the relevant region, adjusted by a subtraction factor (which decreases each year, thereby increasing

the after-tax price of natural gas) and for inflation. Tier 3 use of natural gas is subject to a tax rate beginning at 55 cents per million Btu in 1983, and reaching 75 cents per million Btu in 1985 and later years. (One thousand cubic feet of natural gas contains approximately one million Btu.) These rates would be adjusted for inflation beginning in 1981. The tier 3 tax rate is limited so that the cost of natural gas never exceeds the cost of energy equivalent residual oil in the region where the gas is used. A 10 percent discount is provided for tier 1 and tier 2 uses subject to interruptible contracts.

Natural gas subject to the tax includes natural gas, petroleum, or a product of natural gas or petroleum, having an API gravity of 110 or more. The tax does not apply to substances that are not generally marketable for use as a fuel, such as still gas.

Suspension power.—The President may suspend the imposition of part or all of the use tax for a period of up to one year if he determines that the imposition of such tax would have an adverse economic effect. A suspension plan must be submitted to Congress, and would be subject to a veto by either house of Congress before the end of 15 legislative days after submission.

Exemptions.—Since the tax applies only to use as fuel, uses of oil and natural gas as raw materials, such as petrochemical feedstocks, are not subject to tax. An industrial process use would be exempt from tax where the use of any fuel other than oil or gas would materially and adversely affect the manufacturing process or the quality of the manufactured product, or the use of such alternative fuel would not be economically and environmentally feasible. Also exempt are uses in: any residential facility; any vehicle, aircraft, vessel, or transportation by pipeline; agriculture; nonmanufacturing commercial buildings; and the exploration, development and production of oil and gas. An exemption is provided where use of fuel other than oil or gas is precluded by applicable air pollution control laws.

In addition, each taxpayer is provided an annual exempt amount equal to the energy content of 50,000 barrels of oil. For this purpose, greater-than-50-percent commonly-controlled organizations, whether or not incorporated, are considered a single taxpayer. Where a taxpayer suffers a substantial regional competitive disadvantage as a result of the use tax, the Secretary of the Treasury may provide additional exempt amounts for individual plants. The Secretary is required to publish the names of taxpayers and plants receiving such additional exempt amounts.

Reclassifications.—The Secretary of the Treasury must establish a procedure for reclassifying basic uses to lower rates of use tax. Reclassification may include complete exemption from the tax. Reclassifications are to be made only if the Secretary determines that such action is not inconsistent with the goal of encouraging the conversion from, or significant conservation in, the use of oil and gas as a fuel. The Secretary is not authorized to reclassify a use to a higher rate of tax.

2. Credit against use tax

In general.—A person subject to the use tax may elect either an additional 10 percent investment tax credit (discussed below), or a dollar-for-dollar credit against the use tax, for qualified expenditures made in alternative energy property. The credit is allowable up to current use tax liability. Excess credits may be carried forward. In addition, 1979 and 1980 taxes (including any tax carried forward from 1979) which are not offset by the credit may be carried over to 1981. Qualified progress expenditures are available under rules similar to the investment tax credit rule. The credit terminates after 1990 except for carryovers and where construction of alternative energy property began, or such property was acquired, before the end of that year.

Alternative energy property.—Qualified investments (which generate the use tax credit on a dollar-for-dollar basis) consist of investments in alternative energy property. Generally, this is new tangible property used in the taxpayer's trade or business, which is subject to the allowance for depreciation (or amortization), which has a useful life of at least 3 years and which is not used predominantly outside the United States. The determination of whether property is "new" depends on the extent to which it is constructed, or whether it is acquired, on or after April 20, 1977. The original use of acquired property must begin with the taxpayer.

Alternative energy property consists of: (a) a boiler not fueled by oil or gas; (b) a burner for a combustor (other than a boiler) not fueled by oil or gas; (c) nuclear, hydroelectric, or geothermal energy equipment; (d) equipment for producing synthetic gas; (e) pollution control equipment required in (a), (b), or (d); (f) coal utilization equipment; and (g) the basis for plans and designs for all of the above equipment. Alternative energy property does not include buildings and structural components thereof and property used in the trade or business of leasing.

Election.—A taxpayer must specifically elect to treat qualified investments as a credit against the use tax. Otherwise, such investments will be available only for the investment tax credit. This election applies to all the alternative energy property of the taxpayer. For this purpose, greater-than-50-percent commonly-controlled organizations, whether or not incorporated, are considered a single taxpayer. Where the qualified investment exceeds the tax liability for a calendar year, the excess may be treated as eligible for the regular (but not the additional 10 percent) investment tax credit. To the extent such election is made, the use tax credit is no longer available. Normally, qualified investments used to offset the use tax would not be eligible for either the regular or the additional investment tax credit, but would otherwise be treated as part of the tax basis for the property.

Special rules.—Dispositions of alternative energy property are subject to recapture rules similar in form to the rules for the regular investment credit. In addition, utilities are allowed the credit against the use tax for investment in new boilers only to the extent that old oil or gas boilers are replaced or phased down. For this purpose, phase-down is based upon less than 1500 hours of use per year. Special penalties and recapture rules apply to phased-down boilers that are subsequently used for more than 1500 hours per year.

Property which is financed by industrial development bonds is eligible for only a 50-percent use tax credit. No Federal income tax deduction is allowed with respect to any portion of the use tax offset by the use tax credit.

E. BUSINESS ENERGY TAX CREDIT AND SPECIAL INVESTMENT CREDIT AND DEPRECIATION CHANGES

1. Business energy credit

In general.—An additional 10 percent investment tax credit is allowed for business investments in qualifying property intended to reduce energy consumption in heating or cooling or in an industrial process. The additional credit is available for qualifying investments made after April 19, 1977, and before January 1, 1983. In the case of alternative energy property, the additional credit may offset up to 100 percent of the taxpayer's income tax liability as opposed to the 50 percent limitation provided under current law. This additional credit may be elected as an alternative to the credit against the use tax.

Qualifying property.—Energy property eligible for the additional investment tax credit consists of: (a) alternative energy property (as described above in the use tax credit explanation); (b) the expansion of cogeneration capacity; (c) advanced technology property; (d) specially defined energy property; and (e) certain recycling equipment. Alternative energy property is eligible for a maximum additional investment tax credit of 10 percent, even if described in another category of energy property. Advanced technology property uses solar, geothermal, or wind energy to provide heat, cooling, or electricity in connection with an existing building and (where applicable) an existing industrial or commercial process. Specially defined energy property (such as recuperators, heat wheels and energy control systems) includes equipment which would recover waste heat in gases or otherwise reduce energy consumption, and equipment to modify existing facilities to allow the use of oil or gas in conjunction with another fuel.

Energy property must be completed or acquired after April 19, 1977, in conjunction with a building or other structure located in the United States. Such property must be subject to the allowance for depreciation (or amortization) and have a useful life of at least 3 years. All business energy property (other than alternative energy property) must meet performance and quality standards which have been prescribed by the Secretary of the Treasury, and which are in effect at the time the property is acquired or construction is begun.

Utilities are subject to a phase-down requirement similar to the requirement incorporated in the use tax credit provision. In the case of property financed by industrial development bonds the additional energy investment tax credit is 5 percent.

Insulation installed in connection with an existing building or industrial facility will be made eligible (to the extent not already eligible) for the regular investment tax credit through 1982. Insulation must be specifically and primarily designed to reduce the heat loss or gain of an existing building or facility. The original use of the property must begin with the taxpayer. In addition, the property must reasonably be expected to remain in operation for at least 3 years, and meet performance and quality standards prescribed by the Secretary of the Treasury.

2. Denial of investment credit and accelerated depreciation

Air conditioning units and boilers fueled by oil or gas will no longer qualify for any investment tax credit. In addition, such boilers will be limited to straight-line depreciation and denied the 20-percent variance from guideline lives under ADR. If the use of a fuel other than oil or gas is precluded by applicable air pollution laws or qualifies as an exempt use under the oil and natural gas consumption tax, these restrictions on the investment credit and depreciation will not apply.

3. Accelerated depreciation for phased-down boilers

If a taxpayer certifies that he plans to replace or retire a boiler or other combustor which uses oil or gas, he may depreciate the remaining basis of such property over the phase-down period. Under current law, the taxpayer would ordinarily deduct the remaining basis when the old equipment is retired.

F. MISCELLANEOUS PROVISIONS

1. Minimum tax on intangible drilling costs

The Act makes permanent a provision applicable only for 1977 that applies the minimum tax to intangible drilling costs for oil and gas only to the extent that such costs exceed the sum of the taxpayer's income from oil and gas production plus the result of 10-year amortization of the intangible drilling costs.

2. Tax treatment of geothermal expenses

The expensing of intangible drilling cost treatment now provided for oil and gas will be extended to the exploration and development costs of geothermal resources. Such intangible drilling costs will be subject to the same minimum tax treatment described above for oil and gas, except that oil and gas properties will be treated separately from geothermal properties for purposes of determining income. The recapture rules and at risk rules applicable to oil and gas are extended to geothermal properties.

Percentage depletion is provided at a 10-percent rate for geothermal deposits, subject to the limitation that the total amount of depletion may not exceed the taxpayer's adjusted basis in the property.

3. Rerefined lubricating oil.

New lubricating oil would be exempt from the 6-cents-per-gallon excise tax if such oil is combined with rerefined oil and the new oil makes up not more than 55 percent of the mixture. If the new oil in the mixture exceeds 55 percent, the exemption would apply only to the new oil that would make up 55 percent of the mixture. In any case, the mixture must contain at least 25 percent waste or rerefined lubricating oil in order to qualify for the exemption.

4. Annual report by the President

Beginning in August 1978, the President will report each year to the Congress on the revenue impact, and increased energy conservation and production resulting from the tax provisions of the Act.

[Thereupon, at 12 noon, the hearings in the above-entitled matter were recessed, to reconvene at 10 a.m., Wednesday, August 10, 1977.]

APPENDIX A

Energy Tax Provisions—Summary and Section-by-Section Explanation of Title II of H.R. 8444 as Passed by the House—Prepared for the Committee on Finance by the Staff of the Joint Committee on Taxation.

[COMMITTEE PRINT]

ENERGY TAX PROVISIONS

1

SUMMARY AND SECTION-BY-SECTION EXPLANATION OF TITLE II OF H.R. 8444 AS PASSED BY THE HOUSE

PREPARED FOR THE
COMMITTEE ON FINANCE
UNITED STATES SENATE
BY THE STAFF OF THE
JOINT COMMITTEE ON TAXATION



AUGUST 8, 1977

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INTRODUCTION

This pamphlet provides a description of title II of H.R. 8444 ("The Energy Tax Act of 1977"), as passed by the House of Representatives on August 5, 1977.

The first part gives a summary of the energy tax provisions in the House bill. The second part gives a section-by-section explanation of the energy tax provisions in title II of H.R. 8444.

In addition, the third part of this pamphlet shows the estimated budget effects and the energy savings of the energy tax provisions of title II of H.R. 8444, as passed the House.

I. SUMMARY OF TITLE II OF H.R. 8444

A. Residential Credits

Residential insulation and energy conservation credit

The House Bill provides a credit of 20 percent on the first \$2,000 of cumulative expenditures on home insulation and other energy conserving components, for a maximum credit of \$400. The credit would be available for installations made from April 20, 1977, through December 31, 1984.

Insulation means materials that will reduce the heat loss or heat gain of a residence. Attic, floor and wall insulation made of fiberglass, rock wool, cellulose or styrofoam are examples of insulating materials. Energy conserving components include a replacement burner for a furnace that provides increased combustion efficiency, devices to modify flue openings, automatic ignition systems that replace a standing gas pilot light, exterior storm or thermal doors or windows, a clock thermostat and exterior caulking or weatherstripping.

The expenditures must be made for a principal residence that was in existence on April 20, 1977. Vacation homes and other residences do not qualify for the credit.

If a taxpayer moves to another principal residence after taking the credit on a previous principal residence, qualifying expenditures on the other residence would be eligible for the \$400 credit.

Owners and renters will be eligible for the credit. Cooperative and condominium housing owners are each eligible for the \$400 credit on their proportionate shares of the common qualifying expenditures. The credit is allocated among joint occupants of a principal residence.

Residential solar and wind energy equipment credit

A credit up to \$2,150 would be available on the first \$10,000 of expenditures on solar and wind energy equipment. The credit is 30 percent of the first \$1,500 spent and 20 percent of the next \$8,500 spent for installations of this equipment from April 20, 1977, through December 31, 1984.

Eligible equipment covers equipment that uses solar energy to heat or cool, or to provide hot water for a principal residence, and equipment that uses wind to generate electricity and other forms of energy. Solar and wind energy equipment only need to be installed in connection with a residence rather than in or on it, but they do not include backup systems of conventional heating or cooling equipment.

For solar and wind energy equipment, the principal residence may be either an existing or newly constructed residence. Owners and renters are eligible for the credit. Members of cooperative and condominium associations are each eligible for the \$2,150 credit to the maximum amount for their proportionate shares of the common qualifying expenditures. The credit is allocated among joint occupants of a principal residence.

B. Transportation Tax Provisions

Gas guzzler tax

Imposition of the tax

Under the House bill, a gas guzzler tax would be imposed on each sale or initial lease by the manufacturer of an automobile that falls below efficiency standards established for each model year. The efficiency standard increases for each model year 1979 through 1985. The standards start from 3 to 5.5 miles per gallon below the fleetwide average standards imposed under the Energy Policy and Conservation Act (EPCA). The tax applies to automobiles weighing no more than 6,000 pounds; but it does not apply to trucks with a cargo capacity of at least 1,000 pounds.

A separate tax table applies to each model year 1979 through 1985; the table for 1985 applies to later model years as well. The lowest tax increases from \$339 for an automobile with an efficiency rating of 15 miles per gallon in 1979 to \$397 for an automobile with an efficiency rating of 23.5 miles per gallon in 1985 and later years. The highest tax each model year applies to vehicles with efficiency ratings at or below 12.5 or 13 miles per gallon and increases from \$553 in 1979 to \$3,856 in 1985 and later model years.

The tax will apply to new and used imported cars, according to their model years, and the tax is to be imposed on the importer.

The basis of the automobile is to be reduced by the amount of the gas guzzler tax. In other words, the amount of this tax is not to be taken into account in computing depreciation, the investment tax credit, or gain or loss on resale.

Trust fund

The House bill also establishes a Public Debt Retirement Trust Fund into which the proceeds of the gas guzzler tax will be deposited. The proceeds are to be used to retire obligations of the United States that are included in the public debt.

Repeal of personal deduction for State gasoline tax

The House bill repeals the personal deduction for State and local government taxes imposed on the purchase of gasoline, diesel fuel and other motor fuels used for nonbusiness purposes, effective for purchases after December 31, 1977.

Extension of excise tax on gasoline and other motor fuels

The current Federal excise taxes of 4 cents a gallon on gasoline and other motor fuels will be continued at that rate through September 30, 1985. These taxes are currently scheduled to be reduced to one and one-half cents a gallon after September 30, 1979. The House bill does not affect the current Highway Trust Fund, which will continue to receive these funds under present law through September 30, 1979.

Repeal of refund of motorboat fuel tax

The House bill repeals the 2-cents-a-gallon reduction (through refund, credit or exemption) of the excise taxes on gasoline and special motor fuels used in a motorboat. The increased taxes on motorboat fuel will go into the Land and Water Conservation Fund (as do the present 2-cents-a-gallon taxes).

Repeal of excise taxes on buses and bus parts

The 10-percent excise tax on buses and the 8-percent excise tax on bus parts and accessories are repealed under the House bill. Parts and accessories that may be interchangeable between trucks and buses will be taxed on sale unless the purchaser provides the manufacturer with an exemption certificate which indicates that the part or accessory is purchased for use on a bus. If tax-paid parts are acquired from a dealer and are used on a bus, a credit or refund is to be available.

Removal of excise taxes on items used with certain buses

The House bill removes the excise taxes on tires, inner tubes, tread rubber, and lubricating oil sold for use on or in connection with privately owned intercity, local, and school buses. It also provides a credit or refund for the taxes imposed on gasoline and other motor fuels to the extent the fuels are used in qualified operations of privately owned intercity, local, and school buses.

Tax credit for electric motor vehicles

New electric cars purchased for personal use by individuals on or after April 20, 1977, and before January 1, 1983, will be eligible for a tax credit equal to the first \$300 of the purchase price. A qualified electric motor vehicle is a 4-wheeled vehicle manufactured for use on public roads that is powered by an electric motor which receives electric current from rechargeable storage batteries or other portable sources.

C. Crude Oil and Natural Gas Liquids Equalization Taxes and Rebates

Crude oil equalization tax

Under the House bill, an excise tax is imposed on the first purchase (generally by the refiner) of price controlled, domestically produced crude oil. The tax increases the cost of all crude oil to the world price by 1980. The termination date of the tax is September 30, 1981.

The tax is imposed in three stages. In 1978, the tax is imposed on lower tier oil (old oil under current regulations) and is equal to one-half the difference between the controlled price of new oil and the controlled price of old oil of the same classification. In 1979 the tax on lower tier oil will be raised so that the cost will be identical for lower tier and upper tier oil of the same classification. In 1980 and for the duration of the tax, the tax will equal the difference between the well-head prices of uncontrolled and controlled crude oil of the same classification. As a result, the price of controlled oil plus the tax will be raised to the world price of oil in 1980.

There are exemptions for oil used to extract oil and natural gas and for oil used to produce natural gas liquids.

Natural gas liquids equalization tax

A tax is imposed on sales to end users of natural gas liquids, and it is based upon the difference (the price gap) between the controlled price of the liquid and the wholesale price for No. 2 distillate in the region, adjusted for differences in Btu content. The tax will be equal to one-third of the price gap in 1978, two-thirds of the gap in 1979, and equal to the entire gap in 1980 and later years.

There are exemptions for natural gas liquids used in residences, on farms and in churches, schools and hospitals.

Presidential authority to suspend the tax

The President is granted authority to suspend any or all of any increase in the equalization tax, if he determines that there has been a significant increase in the world price of oil that will result in a higher equalization tax and will have a substantial adverse economic effect. A suspension plan would have to be submitted to Congress and would be subject to a veto by either House within 15 days of submission.

Crude oil rebates

Taxpayer credits.—The net receipts from the equalization taxes will be apportioned equally and returned to each taxpayer in 1978 through a new tax credit. Single taxpayers and married persons filing separately will receive a single payment, and married persons filing joint returns and heads of households (single persons with dependents) will receive a double payment.

The bill instructs the Secretary of the Treasury how to estimate these tax credits.

The credit will be limited to a taxpayer's tax liability, except for recipients of the earned income credit. The estimated amounts of these payments will be reflected in the withholding tax schedules for 1978.

Special payments.—Special payments will be made in 1979 to adults who are recipients of monthly benefits under social security, railroad retirement or supplemental security income. These payments will be made in the Fall of 1979 and will equal the credits rebated to individual taxpayers. Special payments will be reduced by any tax credit received, in order to avoid double payments.

Special payments also will be made to adults who receive aid to families with dependent children. Other adults who do not receive a tax credit or special payment under one of the programs referred to above may file an appropriate form with the Secretary of the Treasury in order to receive a roundup payment.

The House bill also authorizes payments to the governments of Puerto Rico and the possessions, if they submit acceptable plans to the Secretary of the Treasury for distribution of amounts similar to the tax credits and special payments.

Heating oil refund

An exception is provided from the crude oil equalization tax for heating oil used in residences, churches, schools, universities and hospitals. Distributors of heating oil will receive a refund of the equalization tax for each gallon sold to one of these users, so long as the refund is passed through completely to the customers as lower prices.

D. Tax on Business Use of Oil and Gas and Credit

Excise tax on business use of oil and gas

Imposition of tax

A tax would be imposed on the use of oil or natural gas as fuel in a trade or business. Three levels of tax would be imposed: Tier 1 which would apply to an industrial use where conservation in fuel consumption is feasible; Tier 2 which would apply to uses of oil or

natural gas in which conversion to another fuel is feasible; and Tier 3 would apply to electric utilities, industrial producers of electricity using boilers with a total rating of at least 100 megawatts per plant and industrial cogenerating facilities.

The House bill only imposes the tax on the larger industrial and utility users of oil and gas. An exemption is provided which limits the tax only to those firms which use more than 50,000 barrels of oil per year or the Btu equivalent of gas (i.e., 300 billion Btu). In cases of a regional competitive disadvantage, the Secretary of the Treasury may provide additional exempt amounts for individual plants, and he is required to publish the identification of taxpayers and plants which receive additions to their exempt amounts.

Determination of amount of tax

The tax on Tier 3 uses and on use of oil in Tiers 1 or 2 would be determined according to the following schedules:

Year of use	Tax on oil (per barrel)			Tax on natural gas (per million Btu)
	Conservation tier (Tier 1)	Conversion tier (Tier 2)	Electric utilities (Tier 3)	Electric utilities (Tier 3)
1979-----	\$0. 30	\$0. 30	None	None
1980-----	. 60	. 60	None	None
1981-----	1. 00	1. 00	None	None
1982-----	1. 00	1. 45	None	None
1983-----	1. 00	2. 00	\$1. 50	\$0. 55
1984-----	1. 00	2. 50	1. 50	. 65
1985 and thereafter..	1. 00	3. 00	1. 50	. 75

The House bill provides a variable tax on the industrial use of natural gas in Tier 1 and Tier 2 categories which would be determined by subtracting the user acquisition price (per million Btu of gas) and a cost differential from the target price (per million Btu of gas) for the region in which the gas is used. The cost differential will change each year—declining annually from \$1.35 in 1979 to \$.30 in 1985 and later years for Tier 1 use and from \$1.05 in 1979 to zero for Tier 2 use in 1985 and later years. The natural gas target price is determined by the average regional price of all No. 2 grade distillate oil sold during the preceding calendar year in the region, adjusted for differences in energy (Btu) content between such oil and natural gas. In cases where natural gas is purchased under an interruptible contract, the users tax would be subject to a 10-percent reduction.

Beginning in 1981, the tax rates would be adjusted annually for inflation that occurs after 1979. The implicit price deflator for the gross national product is to be used as the index of inflation. The index for the calendar year preceding the current calendar year would be used in order to inform the taxpayer as early as possible in the current year what the tax rate would be.

In the case of the tax on the use of natural gas in the production of electricity for sale, there would be a limit to the tax so that it would not exceed the amount necessary to make the firm's cost of gas (including the tax) equal to the cost of the residual oil (including the tax) in the region where the gas is used.

Suspension of tax

The President could suspend the tax for a period up to one year, if he believes it would have an adverse economic effect. A suspension plan would have to be submitted to Congress and would be subject to a veto by either House within 15 days of its submission.

Exemptions from tax

(1) Industrial process use would be exempt from the tax when the use of fuels other than oil or natural gas would materially and adversely affect the manufacturing process or the quality of the manufactured goods, and when the use would not be economically and environmentally feasible.

(2) An exemption from the tax would be provided to nonindustrial uses of oil and natural gas in residential facilities, in transportation (including pipelines), on a farm for farming purposes, in nonmanufacturing commercial buildings, and in the exploration, development and production of crude oil and natural gas.

(3) Oil and natural gas would be exempt from taxation if used in a facility that was in existence or under construction on April 20, 1977, and which was precluded from using coal by State air pollution regulations in effect on that date or by Federal air pollution regulations. State regulations in effect on that date would also be grounds for exemption if such regulations were necessary to meet a requirement of Federal law. A regulation of a local agency having jurisdiction over a facility under an approved State Implementation Plan also would be the basis for an exemption.

Reclassification of uses

The Secretary of the Treasury would establish a procedure for reclassifying uses to a category which is taxed at a lower rate or which is exempt from tax. In considering requests from individual firms, the Secretary is to take into account the potential for conversion or conservation in the use of oil and natural gas and would also consider environmental, economic, as well as technological factors relevant to the individual case.

Credit against tax on business use of oil and gas

Under the House bill, a taxpayer may elect a credit against the use tax of \$1 for each dollar of qualified investment, up to 100 percent of the taxpayer's oil and natural gas use taxes. If the amount of investment is in excess of the amount of use taxes for the year, a carry-forward of this investment is permitted against use taxes in future years. Any use tax liability for 1979 and 1980 may be carried forward to 1980 and 1981, respectively.

Utilities would be allowed to carry forward qualifying investment expenditures to offset use tax liabilities incurred beginning in 1983. Utilities would be allowed a credit to the extent that old oil and gas boilers are replaced or phased down for peakload or standby use (1,500 hours or less a calendar year). The extent to which this credit is

plowed through to consumers in the form of lower prices is left to the discretion of State regulatory agencies.

Where a phased-down old boiler is used between 1,500 and 2,000 hours in a calendar year, a penalty equal to the use tax would be imposed. Taxes paid in such cases would not be available for offset by qualified investment expenditures. Where old boilers are used more than 2,000 hours in a calendar year, there would be a recapture of credits against tax.

The credit would not be available after 1990, except for qualified property on which construction had begun.

Qualified energy investment which could be a credit against the use tax includes the cost of alternative energy property placed in service during the year or, if the taxpayer elects, the progress expenditures made for that property during the year. It does not include a building or its structural components and does not include property to be used in the business of leasing. It includes—

- (1) a boiler whose primary fuel is an alternate substance,
- (2) a burner and equipment necessary to supply fuel to a combustor other than a boiler for which the primary fuel is an alternate substance,
- (3) equipment used in the production of energy by nuclear, hydroelectric, or geothermal power other than the fuel, steam, turbines or equipment beyond the turbine stage,
- (4) equipment for converting an alternate substance into synthetic gas,
- (5) pollution control equipment required to be installed in equipment described above (other than equipment required to be installed on a facility using coal as of April 20, 1977).
- (6) equipment used for unloading, transferring, storing, reclaiming from storage and preparation of an alternate substance for use in the equipment described above or in a facility which uses coal as a feedstock for products other than coke, and
- (7) the costs for plans and design for equipment described above.

An alternate substance would be a fuel that is not oil, natural gas or their products.

The taxpayer could receive the regular investment tax credit on his qualified energy investment expenditures only to the extent that a credit against the use tax was not claimed for the same investment outlay.

E. Business Energy Tax Credit; Investment Credit and Depreciation Changes

Business energy credit

A 10-percent business energy tax credit is allowed under the House bill in addition to the investment credit provided under present law for investments by business in qualified property intended to reduce the amounts of oil, natural gas or other energy consumed in heating or cooling a building or used in an industrial process.

The credit would be available for investments in qualifying property made after April 19, 1977, and before January 1, 1983. Where credits are generated by investments in alternative energy property, they may be applied against 100 percent of the taxpayer's income tax liability, rather than the 50-percent limitation that is now generally available.

The business energy tax credit would be available for alternative energy property as an option to the use tax credit for taxpayers who would be liable for the oil and natural gas use taxes. The taxpayer could elect either the dollar-for-dollar credit of the use taxes or the business energy credit for investments in alternative energy property. A taxpayer who elected the credit against the use-tax would receive the regular investment credit only on the amount of the investment that was not credited against the user tax.

Qualifying property.—For the business energy tax credit, qualifying property includes alternative energy property which is described above. Other types of property which would receive the 10-percent additional energy investment credit are:

- (1) installation or expansion of cogeneration property in an existing facility;
- (2) advanced technology property which would use solar, geothermal, or wind energy to provide heat, cooling or electricity;
- (3) specified items of equipment (such as recuperators, heat wheels, and energy control systems) which would recover waste heat and gases or otherwise reduce energy consumption, and also equipment to modify existing facilities to allow the use of oil or natural gas and at least 25 percent of some other substance in a combustor or to produce an industrial feedstock; and
- (4) equipment to recycle solid waste and to sort and prepare solid wastes for recycling.

In order to qualify, property or equipment in these categories generally must be new property which would be used in connection with a building or facility in existence or substantially completed by April 20, 1977. Where the property would be added to an industrial process, this process must have been carried on as of April 20, 1977.

Business insulation

For purposes of the regular investment credit, insulation installed in connection with an existing building or industrial facility would be qualifying property through 1982. Insulation includes storm doors and windows, thermal glass and double glazing.

Denial of regular investment tax credit and accelerated depreciation

The regular investment credit would be denied for air conditioners and space heaters.

The regular investment credit also would be denied for new oil and gas boilers. In addition, straight-time depreciation would be required for these boilers, and the 20-percent variance from the guideline lives for depreciable property under ADR would not be available for these boilers. These limitations, however, would not apply where the use of coal as an alternative fuel is precluded by Federal or State regulations or where the use of oil or natural gas qualifies as an exempt process use.

These rules would be prospective with exemptions only for binding contracts in existence on April 20, 1977.

Depreciation adjustment for planned retirement of boilers

If a taxpayer certifies that he plans to replace or retire a boiler or other combustor which uses oil or natural gas as a fuel before a specified date, the undepreciated value of the equipment would be deductible using the straight line method and a useful life equal to the period

from certification to the specified date for retirement. Interest would be charged on the tax benefit that would accrue as a result of this provision, if the retirement takes place later than the specified date.

F. Certain Deductions for Oil and Gas Wells and Geothermal Expenses

Tax treatment of geothermal expenses

Under the House bill a current deduction would be allowed for intangible drilling costs related to the exploration and development of geothermal resources. To the extent that these intangible drilling costs exceed the taxpayer's income from the production of geothermal resources, these costs would be subject to the minimum tax on preference items.

In addition, the bill provides percentage depletion at a 10-percent rate for all geothermal resources, subject to the limitation that the total amount of depletion allowed with respect to any property is not to exceed the taxpayer's adjusted cost basis in that property.

Minimum tax on intangible drilling costs for oil and gas wells

The House bill extends beyond 1977 the provision in present law (enacted for 1977 only in the Tax Reduction and Simplification Act of 1977) relating to the minimum tax on intangible drilling costs. As a result, the minimum tax on preference items applicable to intangible drilling costs for oil and gas wells would be modified to treat these intangible costs as preference items only to the extent they exceed the taxpayer's oil and gas production income.

G. Other Provisions

Rerefined lubricating oil

New lubricating oil would be exempt from the 6-cents-per-gallon excise tax, if it is combined with rerefined oil and the new oil makes up 55 percent or less of the mixture. If the new oil in the mixture exceeds 55 percent of the contents, the exemption would apply only to the new oil that would make up 55 percent of the mixture. In any case, the mixture must contain at least 25 percent waste or rerefined lubricating oil in order to qualify for the exemption.

Annual report on energy savings and revenue effects

Beginning in August 1978, the President would be required to report each year to the Congress on the savings in energy use accomplished, the revenue received, and the revenue disbursed under each specific program contained in Title II of H.R. 8444, "The Energy Tax Act of 1977."

II. SECTION-BY-SECTION EXPLANATION OF TITLE II OF H.R. 8444

A. Residential Energy Credits

1. Section 2011 of the House bill—Residential energy credit for insulation and other energy-saving components

Residential energy credit—Section 44C of the Code

(a) A credit is allowed to individuals for qualified energy conservation expenditures.

(b) The amount of qualified energy conservation expenditures for which the credit may be allowed is 20 percent of the first \$2,000 of expenditures (a maximum credit of \$400) made in the tax year.

The maximum expenditure amount is to be reduced by earlier expenditures which were taken into account in computing a credit for an earlier tax year in the credit period. Therefore, the maximum credit may be taken only once for each succeeding principal residence of the taxpayer. However, an individual will be eligible for the maximum credit each time he changes his principal residence, regardless of expenditures he made for a prior principal residence, and regardless of expenditures made by prior residents of his present principal residence.

For any credit to be allowed, a minimum credit amount of \$10 is required with respect to each return (joint or separate). This minimum credit amount is for the combination of insulation and other energy-conserving component expenditures and for all solar and wind energy expenditures made in the taxable year.

The credit is nonrefundable, i.e., it cannot exceed the individual's tax liability in the year for which the credit is claimed.

(c) To qualify for the credit, installations of insulation and other energy-conserving components must be in or on an individual's principal residence, and that residence must be located in the United States. The credit is available only for installations in or on residences the construction of which was substantially completed before April 20, 1977.

Qualifying insulation is an item specifically and primarily designed to reduce, when installed in or on a dwelling (or water heater), the heat loss or gain of the dwelling (or water heater). A qualifying energy-conserving component is any item (other than insulation) which is:

- (1) a furnace replacement burner designed to achieve a reduction in the amount of fuel consumed as a result of increased combustion efficiency;
- (2) a device for modifying flue openings designed to increase the efficiency of operation of the heating system;
- (3) an electrical or mechanical furnace ignition system which replaces a gas pilot light;

(4) a storm or thermal window or door for the exterior of the dwelling;

(5) a clock thermostat;

(6) caulking or weatherstripping of an exterior door or window; or

(7) an item of a kind which the Secretary of the Treasury specifies by regulations as increasing the energy efficiency of the dwelling.

In the case of both insulation and other energy-conserving components, the original use of the property must commence with the taxpayer. Both must also be reasonably expected to remain in operation for at least three years and to meet performance and quality standards prescribed by the Secretary of the Treasury after consultation with the Secretary of Energy, Secretary of Housing and Urban Development, and other appropriate Federal agencies. These standards are not to apply to property purchased prior to the promulgation of the standards.

The Secretary of the Treasury may issue regulations specifying property which qualifies as insulation or as an energy-conserving component.

To qualify for the credit, expenditures for insulation or other energy-conserving components must be "made" during the credit period. Under this provision these expenditures are treated as "made" when the original installation of the insulation or other energy-conserving component is completed.

The entire cost of qualifying property is allowed toward the credit only if at least 80 percent of the property's use is for personal residential purposes. If less than 80 percent of the use of the property is for personal residential purposes, the amount of the expenditure which is allowable toward the credit is reduced proportionately. For purposes of this provision, use for a swimming pool is not treated as a personal residential purpose.

Under this provision, a dwelling is considered a taxpayer's principal residence during the 30-day period prior to the time it would otherwise be considered the taxpayer's principal dwelling. As a result, qualifying expenditures made by a taxpayer on a residence within 30 days of occupation of that residence as a principal residence will qualify for the credit.

(d) Qualifying expenditures by individuals jointly occupying a dwelling as their principal residence are apportioned toward the credit among those individuals as if they were one taxpayer. As a result, a total of \$2,000 of qualifying expenditures may be made for their residence, rather than \$2,000 for each of the occupants. The amount of the credit allowed to each occupant is to be apportioned according to the same ratio as the amount of qualifying expenditures made by that occupant bears to the total amount of qualifying expenditures made by all the occupants.

Cooperative housing association stockholders and condominium management association members (as well as owners and renters) will be eligible to claim the credit. The cooperative stockholder's allocable share of the qualifying expenditures is to be the same as his proportionate share of the cooperative's total outstanding stock. The condominium management association's member's allocable share is to be the amount he is assessed by the association as a result of the insulation and other energy-conserving component expenditures.

(e) In order to avoid a double tax benefit (the credit plus a reduced gain on a subsequent sale of the residence), what would otherwise be an increase in the tax basis of the residence because of qualifying expenditures is to be reduced by the amount of the credit allowed for these expenditures.

(f) These amendments to the Internal Revenue Code of 1954 are to apply to taxable years ending on or after April 20, 1977, for expenditures considered made on or after that date and before 1985.

2. Section 2011 of the House bill—Residential energy credit for solar and wind energy equipment

Residential energy credit—Section 44 C of the Code

(a) A credit is allowed to individuals for qualified solar and wind energy expenditures.

(b) The amount of qualified solar and wind energy expenditures for which the credit may be allowed is 30 percent of the first \$1,500 of expenditures and 20 percent of the next \$8,500 of expenditures (a maximum credit of \$2,150).

The maximum expenditure amount is to be reduced by earlier expenditures which were taken into account in computing a credit for an earlier tax year in the credit period. Therefore, the maximum credit may be taken only once for each succeeding principal residence of the taxpayer. However, an individual will be eligible for the maximum credit each time he changes his principal residence, regardless of expenditures he made for a prior principal residence, and regardless of expenditures made by prior residents of his present principal residence.

For any credit to be allowed, a minimum credit amount of \$10 is required with respect to each return (joint or separate). This minimum credit amount is for the combination of all solar and wind energy expenditures and for all insulation and other energy-conserving component expenditures made in the taxable year.

The credit is nonrefundable, i.e., it cannot exceed the individual's tax liability in the year for which the credit is claimed.

(c) To qualify for the credit, installations of solar and wind energy property must be in connection with an individual's principal residence, and that residence must be located in the United States. The credit is available for both existing and newly constructed dwellings.

Qualifying solar property is equipment which uses solar energy to heat or cool the dwelling or to provide hot water for use within the dwelling. Qualifying wind energy property is equipment which uses wind energy for personal residential purposes. Qualifying property does not include any swimming pool used as an energy storage medium, nor does it include any other energy storage medium which serves a dual purpose.

In the case of both solar and wind energy property, the original use of the property must commence with the taxpayer. Both solar and wind energy property must also be reasonably expected to remain in operation for at least five years and to meet performance and quality standards prescribed by the Secretary of the Treasury after consultation with the Secretary of Energy, the Secretary of Housing and Urban Development, and other appropriate Federal agencies. These standards will not apply to equipment purchased prior to the promulgation of the standards.

Qualifying expenditures include not only the cost of the solar or wind energy property itself, but also the costs of the onsite preparation, assembly, or installation of the property.

To qualify for the credit, solar and wind energy expenditures must be made within the credit period. These expenditures are generally treated as made when the original installation of the property is completed. However, in the case of solar and wind energy expenditures in connection with the construction or reconstruction of a dwelling, these expenditures are treated as made when the taxpayer commences original use of the dwelling as his principal residence.

The entire cost of a qualifying property is allowed toward the credit only if at least 80 percent of the property's use is for personal residential purposes. If less than 80 percent of the use of the property is for personal residential purposes, the amount of the expenditure which is allowable toward the credit is reduced proportionately. Use for a swimming pool is not treated as a personal residential purpose.

Under this provision, a dwelling is considered a taxpayer's principal residence during the 30-day period prior to the time it would otherwise start being considered the taxpayer's principal dwelling. As a result, qualifying expenditures made by a taxpayer on a residence within 30 days of occupation of that residence as a principal residence will qualify for the credit.

(d) Qualifying expenditures by individuals jointly occupying a dwelling as their principal residence are apportioned toward the credit among those individuals as if they were one taxpayer. As a result, a total of \$10,000 of qualifying expenditures may be made for their residence, rather than \$10,000 for each of the occupants. The amount of the credit allowed to each occupant is to be apportioned according to the same ratio as the amount of qualifying expenditures made by that occupant bears to the total amount of qualifying expenditures made by all the occupants.

Cooperative housing association stockholders and condominium management association members (as well as owners and renters) will also be eligible to claim the credit. The cooperative stockholder's allocable share of the qualifying expenditures is to be the same as his proportionate share of the cooperative's total outstanding stock. The condominium management association's member's allocable share is to be the amount he is assessed by the association as a result of the solar and wind energy expenditures.

(e) In order to avoid a double tax benefit (the credit plus a reduced gain on a subsequent sale of the residence), what would otherwise be an increase in the tax basis of the residence because of qualifying expenditures is to be reduced by the amount of the credit allowed for these expenditures.

(f) These amendments to the Internal Revenue Code of 1954 are to apply to taxable years ending on or after April 20, 1977, for expenditures considered made on or after that date and before 1985.

B. Provisions Relating to Transportation

Section 2021 of the House bill—Gas guzzler tax

Gas Guzzler Tax—Section 4064 of the Code

(a) A gas guzzler tax would generally apply to automobiles which fall below the mandatory fleetwide automobile efficiency standards of present law (that is, from more than 3 miles per gallon to more than 5.5 miles per gallon, depending upon the year involved). The tax would apply to 1979 and later model year automobiles.

The amount of the tax applicable to an inefficient automobile would be prescribed in separate rate tables for each of the model years, 1979 through 1984, and the table for 1985 also would apply to all subsequent years. The tax would range from \$339 to \$553 for 1979 model year automobiles, \$249 to \$666 for 1980 model year automobiles, \$245 to \$1,216 for 1981 model year automobiles, \$266 to \$1,565 for 1982 model year automobiles, \$345 to \$2,134 for 1983 model year automobiles, and \$397 to \$3,856 (for an automobile rated below 12.5 mpg) for 1985 and later model year automobiles.

(b) The gas guzzler tax generally applies to vehicles which are manufactured primarily for use on public streets, roads and highways and which are rated at 6,000 pounds gross vehicle weight or less. However, the tax would not apply to trucks with a cargo capacity of 1,000 pounds or more.

(c) The bill prescribes specific mileage standards and specific testing procedures (which are, in general, the same procedures that are currently followed by EPA). These standards and testing procedures are not tied to any changes which might be made by an administrative agency at a later time.

Reduction in basis of automobile on which gas guzzler tax was imposed—Section 1016(c) of the Code

A purchaser of an automobile subject to the gas guzzler tax would be required to reduce his basis in the automobile by the amount of the tax for all purposes, including depreciation, the investment credit and gain or loss on sale. This rule applies only if the vehicle is less than 1 year old when purchased.

Denial of exemptions and refunds—Sections 4221, 4293, and 6416 of the Code

The gas guzzler tax (unlike other manufacturers excise taxes) would apply to vehicles purchased by State and local governments and by tax-exempt educational institutions (without provision for refund). Also, the Secretary of the Treasury would not have the authority to waive the application of the tax to automobiles purchased by the United States Government.

Leases of automobiles subject to the gas guzzler tax—Section 4217(e) of the Code

If a manufacturer leases automobiles rather than sells them, the first lease would be treated as a sale and the gas guzzler tax would be collected in the portion that each lease payment bears to the total lease price.

Section 2022 of the House bill—Trust fund for purposes of reducing public debt

The proceeds of the gas guzzler tax would be appropriated to a newly created Public Debt Retirement Trust Fund which would be utilized to retire a portion of the national debt.

Section 2023 of the House bill—Repeal of deduction for State and local taxes on gasoline and other motor fuels

Repeal of deduction for State and local taxes on gasoline and other motor fuels—Section 164(a)(5) of the Code

The itemized deduction presently allowed for the State and local taxes imposed on gasoline and other motor fuels used for nonbusiness purposes would not be allowed for amounts paid or incurred after December 31, 1977.

Section 2024 of the House bill—Extension to 1985 of existing rate of tax on gasoline and other motor fuels

Extension to 1985 of existing rate of tax on gasoline and other motor fuels—Sections 4041, 4081, and 6421 of the Code

The current Federal excise taxes of 4 cents per gallon imposed on gasoline, diesel fuel, and certain special motor fuels, which are presently scheduled to be reduced to 1½ cents per gallon on October 1, 1979, would be extended through September 30, 1985.

Section 2025 of the House bill—Amendment of motorboat fuel provisions

Retailers excise tax on special motor fuels—Section 4041(b) of the Code

The retailers excise tax on special motor fuels (other than diesel) would be revised by providing that a full tax of 4 cents per gallon (rather than a special 2-cent-per-gallon net rate) would apply to fuels sold for use in motorboats.

Partial refund of gasoline taxes for nonhighway use—Section 6421 of the Code

Under present law, gasoline is generally taxed at 4 cents per gallon, but a 2-cent-per-gallon-reduction is available, by way of credit or refund, for off-highway use. The bill denies this refund or credit if the gasoline is used in a motorboat.

These provisions would become effective on October 1, 1977.

Section 2026 of the House bill—Removal of excise tax on buses

Excise tax on buses—Section 4063(a) of the Code

The 10-percent manufacturers excise tax on buses (which is reduced to 5 percent on October 1, 1979) is repealed for sales of buses occurring on or after April 20, 1977.

Floor stock refunds and consumer refunds are provided for sales of buses on or after April 20, 1977, and on or before the date of enactment of the Act.

Section 2027 of the House bill—Removal of excise tax on bus parts and accessories

Exemptions for (or refunds of) excise tax on parts and accessories for buses—Sections 4221(e)(6) and 6416(b)(2) of the Code

The 8-percent manufacturers excise tax on bus parts (scheduled to

be reduced to 5 percent on October 1, 1979) is repealed with respect to sales on or after the first day of the first calendar month beginning more than 10 days after the date of enactment. This provision is designed to provide either an exemption from the tax or a refund or credit of the tax in situations where parts (including parts which may be used interchangeably on a truck or a bus) are used on a bus.

Section 2028 of the House bill—Removal of excise taxes on certain items used in connection with certain intercity, local or school buses

Exemption from excise taxes on highway tires, inner tubes and tread rubber—Section 4221(e)(5) of the Code

The excise taxes on highway tires, inner tubes and tread rubber are not to apply to with respect to items used on intercity, local, and school buses.

Definitions of bus operations qualifying for exemptions—Section 4221(d)(7) of the Code

To qualify for the exemption from (or refund of) the taxes on tires, tubes, tread rubber, or lubricating oil, the items must be used on or in an "intercity or local bus" or a "school bus." An "intercity or local bus" is any bus which is used predominantly (that is, more than 50 percent) in furnishing (for compensation) passenger land transportation available to the general public, if either (1) the transportation is scheduled and along regular routes, or (2) in the case of charter or other non-scheduled operations, the passenger seating capacity of the bus is at least 20 adults (not including the driver). A "school bus" means any bus with respect to which "substantially all" (that is, at least 85 percent) of the use involves transporting students and employees of schools.

Repayment of tax on lubricating oil in intercity, local, or school buses—Section 6424(a) of the Code

A credit or refund will be provided for the excise tax paid on lubricating oil used in intercity, local, or school buses (as defined above).

Refund or credit of excise taxes on gasoline or other motor fuels for intercity, local, or school bus operations—Sections 6421(b) and 6427(b) of the Code

The taxes paid on gasoline and other motor fuels will be refunded or credited to the extent these fuels are used in a bus engaged (1) in furnishing (for compensation) passenger land transportation available to the general public or (2) in school bus transportation operations. The allocation of fuel to these nontaxable uses may be determined on a mileage basis or on an actual fuel use basis.

Section 2029 of the House bill—Tax credit for qualified electric motor vehicles

Tax credit for qualified electric motor vehicles—Section 44D of the Code

A nonrefundable tax credit (i.e., the credit cannot exceed the taxpayer's tax liability) would be provided for the first \$300 of the purchase price of a new electric motor vehicle (designed for highway operation) purchased by an individual for personal use on or after April 20, 1977 and before January 1, 1983. This credit applies only to new vehicles, not to used vehicles or vehicles converted to electricity.

C. Crude Oil and Natural Gas Liquids Equalization Taxes and Rebates

Section 2031 of the House bill—Crude oil equalization taxes

Imposition of tax—Section 4986 of the Code

(a) An excise tax is imposed on the first purchase of domestically produced crude oil. Only lower tier oil is subject to the tax in 1978 and 1979. Between 1980 and the termination date, all price-controlled oil is subject to the tax.

(b) In 1978, the tax on lower tier oil is one-half of the difference between the controlled price of new oil and the controlled price of old oil of the same classification. (Classifications are to be based on grade, type, and location.) In 1979, the tax on lower tier oil is the full difference between the controlled prices of lower and upper tier oil of the same classification. Between 1980 and the termination date, the tax on all controlled oil is equal to the difference between the controlled price of each classification of crude oil and the uncontrolled price for that classification of crude oil. This rate of tax will generally increase the price of all controlled crude oil to what its uncontrolled price would be were there no price controls.

(c) An excise tax is also imposed on the sale for end use of natural gas liquids after December 31, 1977, and before the termination date. Exemptions from the tax are provided for natural gas liquids that are used as feedstocks to produce natural gas liquid products and liquids used on a farm for farming purposes or in a church, residence, school or hospital.

(d) In 1978, the amount of the tax on controlled natural gas liquids is one third of the difference between the controlled price of the natural gas liquid and the wholesale price, by region, of No. 2 distillate oil, adjusted for the difference in Btu content of natural gas liquids and No. 2 distillate oil. (This difference is called the "price gap.") In 1979, the tax is two-thirds of the price gap. In 1980 and thereafter, the tax is equal to the price gap.

(e) The taxes on controlled crude oil and natural gas liquids expire on September 30, 1981 (the "termination date").

Provisions of common application—Section 4987 of the Code

(a) The first purchaser of the controlled crude oil is liable for the crude oil equalization tax. Generally, the first purchaser must pay the tax. The tax is due by the first day of the fourth calendar month after the month of the first purchase. However, where the first purchaser is a nonresident alien not doing business in the United States, or in other cases where there is a substantial likelihood that the first purchaser will not pay the tax, the Secretary may provide by regulations for the collection of the tax from a subsequent purchaser.

(b) The natural gas liquids tax is imposed on the purchaser for end use and collected by the seller. The tax is payable on or before the 15th day of the second month after the sale for end use.

(c) Where crude oil is used to produce natural gas liquids, a credit or refund of the crude oil equalization tax is provided for the crude oil used to produce the natural gas liquids. The credit or refund is available only if the refiner establishes that the price of the natural gas liquids has not been increased by any portion of the crude oil equalization tax. For each barrel of crude oil used to produce natural gas liquids, the credit or refund equals the average per barrel crude oil equalization tax for all oil consumed in the United States.

(d) The President is granted standby authority to suspend any increase in the equalization taxes where he determines that the increase will cause a substantial adverse economic effect. However, either House of Congress can veto any suspension plan within 15 days of its submission to the Congress by the President. Moreover, no suspension can last for more than one year without additional Presidential action and additional Congressional approval.

Definitions and special rules—Section 4988 of the Code

(a) This section provides a number of definitions, including definitions of crude oil, natural gas liquids, and lower and upper tier crude oil. Generally, these definitions are similar to the definitions used for price control purposes.

(b) The crude oil equalization tax applies only to crude oil produced in the United States including its possessions and the continental shelf. The natural gas liquids tax only applies to natural gas liquids sold or used in the United States.

(c) Where crude oil is refined, exported or otherwise used before its first purchase, the first purchase is deemed to occur at the time of removal from the lease. An exemption is provided for crude oil and certain refined products that are used on the lease for the extraction of crude oil or natural gas.

(d) A number of definitions are provided for determining uncontrolled price and controlled price. The controlled price is the ceiling price under price control regulations. The uncontrolled price is the price the oil would have sold for if there were no price controls. Where no uncontrolled price for a particular classification of crude oil is available for comparison, the Secretary is authorized to determine the uncontrolled price on the basis of the best available information. These determinations are to be made in such a way as to prevent undue hardships and windfalls.

(e) The tax applies proportionately to fractional barrels of oil or natural gas liquids.

Section 2032 of the House bill—Miscellaneous provisions

(a) *Study of small and independent refiners.*—This section requires the Secretary of Energy to conduct a study of the effect of the imposition of the crude oil equalization tax and any phaseout of the entitlements program on small and independent refiners and to present the report to Congress within 90 days after the date of enactment of the bill.

(b) *Effect of crude oil equalization taxes on certain natural gas contracts.*—This section provides that the crude oil equalization taxes shall not be taken into account in determining the price of natural gas under contracts entered into before the date of enactment of the bill.

Section 2033 of the House bill—Establishment of trust fund for the return of crude oil equalization taxes

(a) A trust fund is established for the return of equalization taxes on crude oil and natural gas liquids.

(b) The trust fund will receive the amount of the equalization taxes for 1978, less related reductions in income taxes arising from the imposition of the equalization taxes and less payments to refiners who produce natural gas liquids from crude oil.

(c) The trust fund can only be used for the return of equalization taxes as provided in the committee amendment.

(d) The trust fund terminates on December 31, 1979.

Section 2034 of the House bill—Per taxpayer credit of crude oil equalization tax receipts

Crude oil equalization tax receipts credit—Section 44E of the Code

(a) Generally, the equalization taxes are returned in the form of an income tax credit to all taxpayers for 1978. The amount of the credit will be reflected in the withholding tables.

(b) Joint returns and heads of households are entitled to twice the usual credit.

(c) The amount of the credit (called the "crude oil payment") is (1) the estimated amount of equalization taxes for 1978, less (2) the estimated loss in income taxes resulting from the imposition of the equalization taxes, and less (3) the estimated administrative costs, divided by (4) the estimated total number of crude oil payments. This will be the amount which causes all of the net revenues raised by the taxes to be returned to consumers.

(d) Except for persons entitled to the earned income credit, the credit may not exceed tax liability.

(e) Trusts, estates, and nonresident aliens are not eligible for the credit.

Section 2035 of the House bill—Special payments to recipients of benefits under social security, railroad retirement, and supplemental security income programs

Payments equal to the crude oil payment are to be made to each individual who received either a social security, railroad retirement, or supplemental security income check in June 1979, Child beneficiaries of social security (except disabled adult children) are excluded. This payment will be reduced by the amount of any crude oil equalization tax receipts credit allowed to the individual on his 1978 income tax return. These payments are to be made by September 1979 and are to be paid out of the trust fund.

Section 2036 of the House bill—Special payment to recipients of aid to families with dependent children under approved State plans

This section provides that a payment equal to the crude oil payment is to be made by the States to each parent or relative receiving aid to families with dependent children, with two payments being made where the individual is a head of household. (Child beneficiaries of AFDC are excluded.) These payments are to be made by September 30, 1979. The States will be completely reimbursed out of the trust fund for the costs (including administrative costs) of the payments.

Section 2037 of the House bill—Other special payments

The Treasury is required to pay to any resident adult (age 18 by December 31, 1978) who had not received the full crude oil payment as a credit or other payment the amount of his remaining crude oil payment. Heads of households are entitled to two payments. These individuals would claim their payment by filing a form with the Treasury.

Section 2038 of the House bill—Provisions applicable to special payments generally

This section provides rules to facilitate the making of the crude oil payments, including rules for the exchange of information to prevent double payments and relief from liability for Government officials where double payments are unavoidably made. The tax credits in excess of tax liability and the special payments are to be disregarded in determining eligibility for, or benefits under, Federal or Federally assisted aid programs.

Section 2039 of the House bill—Refunds of crude oil equalization taxes for residential, etc., use

Heating oil refund for residences, hospitals, schools, and churches—Section 6429 of the Code

This section provides for a refund of the crude oil equalization tax to retailers of heating oil for oil that is used in a residence, hospital, church or school if the retailer establishes that his price to these consumers has not been increased by the crude oil equalization tax. Retailers of heating oil are to receive advance payments in order to alleviate any cash-flow problems from paying higher prices for heating oil before they receive the refund.

Section 2040 of the House bill—Payments to Puerto Rico and the possessions of the United States

This section authorizes payments to the governments of Puerto Rico and the possessions of the energy payments for their residents contingent on these governments submitting an acceptable plan to the Secretary of the Treasury providing for the distribution of these amounts to their residents in a manner similar to the program applicable to residents of the United States.

D. Tax on Business Use of Oil and Gas and Credits

Section 2041 of the House bill—Excise tax on business use of oil and gas

Imposition of tax—Section 4991 of the Code

(a) An excise tax is imposed on each taxable use of oil and natural gas.

(b) The amount of the tax on oil is shown in the following table (the Tiers are defined in section 4993):

	The tax per barrel is—		
	Tier 1	Tier 2	Tier 3
If the taxable use occurs during calendar year—			
1979.....	\$0. 30	\$0. 30	None
1980.....	. 60	. 60	None
1981.....	1. 00	1. 00	None
1982.....	1. 00	1. 45	None
1983.....	1. 00	2. 00	\$1. 50
1984.....	1. 00	2. 50	1. 50
1985 or thereafter.....	1. 00	3. 00	1. 50

The tax for 1981 and each year thereafter is adjusted for inflation.

(c) The amount of tax per million BTU on Tier 1 and Tier 2 uses of natural gas is the excess of the applicable natural gas target price per million BTU over the user acquisition cost per million BTU. These terms are defined in section 4994.

The tax on a Tier 3 use of natural gas is not imposed for years before 1983. For 1983, the rate is \$.55 per million BTU, for 1984, \$.65, for 1985 and thereafter \$.75; these rates are adjusted for inflation for 1981 and each year thereafter. The tax on Tier 3 use of natural gas is subject to a cap described in section 4994.

(d) The inflation adjustment is made by comparing the implicit price deflator for the gross national product for the preceding calendar year with the deflator for 1979.

(e) Taxes are to be rounded to the nearest whole cent.

(f) The tax for any calendar year is to be paid by the user.

(g) The tax is due on or before July 1 of the succeeding calendar year.

(h) If the President determines that the imposition of the tax would have an adverse economic effect, he may submit to the Congress a plan providing for the suspension of all or part of the tax for up to one year. This plan would have to describe the considerations which caused the President to propose the suspension. The suspension would take place only if neither House of Congress adopts a resolution of disapproval within 15 days of its submission.

Taxable use defined—Section 4992 of the Code

(a) Taxable use of oil or natural gas does not include any exempt use or the exempt amount.

(b) Exempt uses include use in residential facilities, use in a vehicle, aircraft, or vessel or in transportation by pipeline, use on a farm for farming purposes, use in a facility which is not an integral part of manufacturing, processing, or mining, and use in the exploration for, or the development, extraction, or storage of crude oil, natural gas, or natural gas liquids.

Exempt uses also include exempt process uses; this term does not include any use in a boiler or in a turbine or other internal combustion engine. It does include the use of oil or natural gas in any manufacturing process if there is no substitute fuel which may be used without materially and adversely affecting the manufacturing process or the quality of the manufactured goods, and the use of which is economically and environmentally feasible.

Exempt use also includes use in certain facilities subject to air pollution regulations. If a facility was in existence or under construction on April 20, 1977 (or if on this date there was a binding contract for the construction of a facility), and the use of coal in this facility is precluded by Federal or State air pollution regulations, then the use of oil or natural gas in this facility is to be exempt from taxation. The State law exemption is only available, however, if State regulations precluding the use were in effect on April 20, 1977, or if the Secretary determines after consultation with appropriate Federal and State agencies, that the adoption of the State regulations are necessary to meet a requirement of Federal law. Regulations of any local agencies which have jurisdiction under a Federally approved State Implementation Plan would also be taken into account if these regulations were in existence on that date or they are necessary to meet a requirement of Federal law.

(c) The exempt amount for the taxpayer for any calendar year is the BTU content of 50,000 barrels of oil. Persons who are members of the same controlled group of corporations and trades or business (whether or not incorporated) which are under common control are to be treated as one taxpayer. If the taxpayer owns a plant and there are other facilities in the same region which are competitive with the plant which have no users tax liability because of the exempt amount, and if the tax liability on the taxpayer's plant would result in a substantial competitive disadvantage to the taxpayer, then the Secretary is to provide an additional exempt amount for this plant to the extent necessary to alleviate the competitive disadvantage.

Tiers of tax, downward reclassification—Section 4993 of the Code

(a) The taxable uses of oil and gas are classified by tiers according to their level of tax. Tier 1 applies to process uses in which conservation of fuel is feasible. Tier 2 includes any use in a boiler or in a turbine or other internal combustion engine (not covered in Tier 3). Tier 3 applies to electric utilities, any other production of electricity using generating facilities with a rated capacity of at least 100 megawatts and industrial cogenerating facilities.

(b) Uses may be reclassified downward by the Secretary of the Treasury to a lower tier tax or an exempt use category on a temporary or permanent basis. Reclassifications can be made only after consulta-

tion with appropriate Federal agencies and only if it is determined that the reclassification is not inconsistent with the goals of conserving oil and gas or converting to other fuels.

Amount of natural gas tax—Section 4994 of the Code

(a) The natural gas target price per million BTU applicable to gas used in any region is the BTU equivalency price for this region minus the taxable use adjustment.

(b) The taxable use adjustment is a number from the following table (adjusted for inflation beginning in 1981 as specified in section 4991):

	The amount subtracted for Tier 1 is—	The amount subtracted for Tier 2 is—
If taxable use occurs during calendar year—		
1979.....	\$1.35	\$1.05
1980.....	.70	.40
1981.....	.65	.35
1982.....	.55	.25
1983.....	.50	.20
1984.....	.45	.15
1985 or thereafter.....	.30	Zero

(c) The Btu equivalency price for any calendar year for any region is to be based on the average regional price per barrel of all No. 2 grade distillate oil sold in the region during the preceding calendar year, but does not include the Section 4991 tax on this oil.

(d) The user acquisition cost per million Btu for any person is the average cost of natural gas for any use. In the case of natural gas which is used by gas producers or by any business under common control with the producer, or which was not acquired in an arm's-length transaction, the user acquisition cost is not to exceed the maximum lawful price applicable to a sale by the producer of such natural gas under the law of the United States. User acquisition cost does not include increases in State user taxes after April 20, 1977, but does include a reasonable allowance for transportation costs, not to exceed the cost which would be incurred in an arm's-length transaction.

(e) For Tier 1 or Tier 2 gas purchased under an interruptible contract, the applicable tax is to be reduced by 10 percent.

(f) The Tier 3 tax is subject to a cap, so that the tax cannot bring the cost of gas used for Tier 3 purposes above the Btu equivalency price of residual fuel oil, including the section 4991 tax imposed on such oil.

(g) The Secretary of the Treasury, after consultation with the Secretary of Energy, is to divide the United States into appropriate regions for purposes of this tax.

Definitions and special rules—Section 4995 of the Code

Oil means crude oil, refined petroleum products, and natural gas liquids, but does not include natural gas and gasoline. Natural gas in-

cludes natural gas, petroleum, or a product of natural gas or petroleum which has an API gravity of 110 or more. Neither oil nor natural gas is defined to include any substance of a kind not generally marketable for use as a fuel.

Section 2051 of the House bill—Credits against tax on business use of oil and gas

Allowance of credit—Section 4996 of the Code

(a) A credit is allowed for investments in qualifying alternative energy property which may be offset directly against the oil and gas consumption tax liability.

(b) The Secretary of the Treasury may prescribe regulations to carry out the purposes of the credit.

(c) No credit shall be allowed for any calendar year after 1990 except to the extent of any carryovers arising from qualifying investments made in years prior to 1991 and for expenditures for property the physical construction, reconstruction or erection of which began before January 1, 1991.

(d) The credit against the users tax is allowed only where the taxpayer has made an election pursuant to section 4999(a) between the users tax credit or the energy tax credit.

Amount of credit—Section 4997

(a) The credit is an amount equal to 100 percent of the qualified energy investment for the calendar year but cannot exceed the users tax.

(b) Qualified energy investment generally is the cost of alternative energy property, referred to as "section 4996 property," placed in service by the taxpayer during the calendar year together with the qualified progress expenditures for such property during the year. The credit is limited to the users tax liability for the calendar year, but any excess investment may be carried forward and treated as qualified energy investment for the following calendar year.

(c) The credit for any calendar year is limited to the users tax for that year. The users tax for 1979 and for 1980 (including any tax carried forward from 1979) in excess of the qualified energy investment for each such year may be carried forward and treated as a users tax imposed in the following year. Where any credit is allowed in 1980 or 1981 solely as a result of the tax carryover from the previous year, the credit so allowed shall be treated as an overpayment.

(d) Where the qualified energy investment is financed by the proceeds of any industrial development bond, the interest on which is tax exempt by reason of section 103, only 50 percent of the investment is to be taken into account in determining the amount of the credit against the users tax.

Section 4996 property—Section 4998 of the Code

(a) The credit is allowable for investments in alternative energy property facilitating the use of fuels other than oil and gas, provided that the property is (1) new; (2) is used in the taxpayer's trade or business; (3) is eligible for depreciation (or amortization); (4) has a useful life of 3 years or more; and (5) is not used predominantly outside the United States.

(b) Alternative energy property is defined to include certain boilers; burners; advanced technology equipment for nuclear, hydroelectric,

or geothermal power; gasification equipment; pollution control equipment; handling equipment for fuels other than oil and gas; and plans and designs for such equipment. A partial credit may be claimed for certain boilers which reduce their oil and gas use to at least 25 percent but not more than 50 percent of their total fuel.

Special rules—Section 4999 of the Code

(a) The election to take the credit must be made on the taxpayer's income tax return for his first taxable year ending after December 31, 1978 in which the taxpayer has qualified energy investment. Once an election is made, it applies to all taxable years. It may be revoked only with the consent of the Secretary or his delegate. The election shall be effective for all qualified energy investment made by the taxpayer.

Where the taxpayer has made an election to take the credit against the users tax with respect to any qualifying energy investment, no energy investment credit against the income tax will be allowed, and the regular investment credit would be allowed only to the extent that current year's investment exceeds the tax for the year, and only if, the taxpayer elects to forego any carryover of the excess investment against the users tax which may be imposed in a later year. A regulated public utility has until its first taxable year ending after December 31, 1982 in which it has qualifying energy investment to make the election.

(b) For purposes of these rules, the taxpayers under common control include all members of the same controlled group of corporations as that term is defined in section 1563 of the Code, but with a 50-percent control test (instead of 80 percent), together with other entities, whether or not incorporated, which are under common control. The Secretary shall prescribe rules consistent with the principles of section 1563 in applying the control test.

(c) Rules similar to the rules of the regular investment credit are provided for recapturing the credit where qualifying property is disposed of or ceases to be qualifying property within 7 years from the time the property is placed in service by the taxpayer.

(d) In the case of a regulated public utility (as defined in section 7701(a)(33) of the Code) whose principal activity is the sale of electricity, a credit shall be allowed for a boiler only to the extent that a boiler, which was in existence on April 20, 1977, and used oil or natural gas as its primary fuel on that date, is replaced or phased down. A boiler shall be treated as phased down only where the boiler was used more than 1500 hours in 1976 and will not be used more than 1500 hours in any year following the year in which the new boiler is placed in service (or after 1983 where the new boiler was placed in service before 1983).

Utilities may treat qualified progress expenditures as qualifying investment for any calendar year where the utility certifies to the Secretary or his delegate that the eventual replacement or phase-down of the old boiler will occur in the year following the year in which the new boiler is placed in service, provided the new boiler is to be placed in service within 3 years after the end of the first year for which the certification is effective.

Further, the bill provides that where a taxpayer has treated a new boiler as qualifying investment and subsequently the phased down boiler is used more than 1500 hours but not more than 2000 hours, the taxpayer's users tax on the oil or gas used in the additional hours shall

be double the normal users tax. In the case of oil, the tax would be \$3 per barrel (\$1.50 regular tax and \$1.50 additional tax). The additional tax would not be eligible for the rebate and could not be reduced by reason of the 50,000 barrel exempt amount (discussed above in connection with the tax.) If the phased-down boiler is used more than 2000 hours, the new boiler is to be treated as having been disposed of in the year in which that excess use occurs and the normal disposition rules will apply.

(e) No income tax deduction is available for the amount of the tax offset by the credit.

E. Business Energy Tax Credit; Investment Credit and Depreciation Changes

Section 2061 of the House bill—Changes in business investment credit and depreciation rules

a. Business energy investment credit (secs. 2061(a) and 2061(c))

A special 10-percent investment credit against income tax liability is provided to business and industry (including agriculture) for investments in certain types of energy-related property made after April 19, 1977 and before January 1, 1983.

This 10-percent business energy investment credit is in addition to the regular investment credit, which is presently also at a rate of 10 percent but which is scheduled to decline after 1980 to 7 percent generally, 4 percent for utilities. The business energy credit is available only where qualifying property is used in connection with a building or structure located in the United States. The property must have been completed or acquired by the taxpayer after April 19, 1977 and before January 1, 1983, and the credit generally applies to the costs incurred during this period. In order to qualify the property must also be new property subject to depreciation and which has a useful life of 3 years or more.

Definitions of energy property

Qualifying energy property is defined to include alternative energy property, that is, the same group of equipment which is eligible for the business oil and natural gas use tax credit. A taxpayer may elect either the use tax credit or business energy tax credit for alternative energy property. If a taxpayer elects the use tax credit, he may claim the regular investment credit against that part of his investment in alternative energy property which is not offset by the use tax credit. If the taxpayer elects the energy investment credit for alternative energy property, that credit and the energy investment tax credit may be used against all the taxpayer's income tax liability. The same rules apply to the replacement or phase-down of an electric utility boiler that apply for purposes of the use tax credit.

Eligible energy property also includes property which allows a taxpayer to make more efficient use of his available energy resources by cogenerating, that is both to generate electricity and to provide some other useful form of energy, such as steam, by adding equipment to expand or to create cogenerating capacity in an existing facility. Equipment which uses solar, geothermal and wind energy is made eligible for the credit, as is a variety of industrial heat recovery equipment to recapture and use otherwise wasted heat and gas. The other categories of eligible property are equipment used exclusively to recycle solid waste and equipment which enables a facility to reduce consumption of oil or natural gas as a fuel or feedstock by at least 25 percent by also using coal, waste, or some other material.

Except for alternative energy property and recycling equipment, the business energy credit generally will apply only to energy property

used in connection with a building (or industrial process, where applicable) in existence on April 20, 1977. All categories of energy property other than alternative energy property must also satisfy performance and quality standards set by the Secretary of the Treasury.

The rate of the energy investment credit will be reduced to 5 percent where any qualifying property is acquired with the proceeds of a tax-exempt industrial development bond.

b. Investment credit for business insulation (sec. 2061(b))

Business insulation will be treated as qualifying property under the regular investment credit (presently 10 percent; 7 percent after 1980) for the period from April 20, 1977 through December 31, 1982. For this purpose, insulation means property which meets standards for reducing heat loss or gain set by the Secretary of the Treasury, including structural insulation, insulating glass, and storm doors and windows.

In order to qualify, the insulation must be used in a building or facility placed in service before April 20, 1977. In addition, it must be new property which has an estimated useful life of at least 3 years. The credit is reduced for insulation with a useful life of less than 7 years.

c. Limitations on investment credit and depreciation for certain property (sec. 2061(d) and (e))

Under this provision, the regular investment credit is denied for portable air conditioners and heaters, which tend to use energy inefficiently. Similarly, the investment credit and rapid depreciation (under accelerated methods and shortened useful lives) are also denied for new oil and gas boilers and other combustors placed in service after June 20, 1977, in those cases where the taxpayer is not prevented by State or Federal air pollution regulations from burning coal as a fuel and where this use of oil or natural gas is not an exempt use for purposes of the oil and natural gas use tax.

d. Rapid depreciation for retired or replaced oil and natural gas combustors (sec. 2061(f))

Under this provision, where a taxpayer expects to retire or replace an existing oil or gas boiler or other combustor before the end of its useful life, the taxpayer's unrecovered costs for this combustor may be depreciated over this shortened period. In order to qualify for this provision, the taxpayer must establish to the satisfaction of the Secretary of the Treasury that this early retirement will in fact occur. If the early retirement does not occur by the expected date, the taxpayer is required to repay, with interest, any tax benefit it realized through increased depreciation deductions under this provision.

F. Certain Deductions for Oil and Gas Wells and Geothermal Expenses

Section 2071 of the House bill—Intangible drilling costs for oil and gas wells

Section 2071 of the House bill extends for all future years the minimum tax provision (essentially, a 15-percent tax imposed on specified items of tax preference) on intangible drilling costs currently applicable for 1977. As a result, intangible drilling cost deductions for oil and gas wells (i.e., generally expenditures made by the owner of an operating interest in an oil or gas well for wages, fuel, repairs, hauling, supplies, etc. incurred in preparing a drill site, drilling and cleaning a well, and constructing assets which are necessary in drilling the well and preparing it for production, such as derricks, pipelines and tanks) would be included in the minimum tax base of individuals only to the extent that those costs, over the amount of those costs amortizable on the basis of a 10-year life, exceed the taxpayer's income from oil and gas properties. The amount of any excess intangible drilling costs would constitute a tax preference item and be subject to the minimum tax.

Section 2072 of the House bill—Intangible drilling costs for geothermal resources

a. Deduction of costs

Section 2072(a) of the House bill provides taxpayers with the option to deduct currently, rather than to capitalize, intangible drilling and development costs related to the exploration for, and the development of, geothermal resources to the same extent and in the same manner as those expenses are deductible in the case of oil and gas wells. Geothermal deposits are defined by the bill to mean geothermal reservoirs consisting of natural heat which is stored in rocks or in an aqueous liquid or vapor (whether or not under pressure).

b. Application of minimum tax

Section 2072(b) of the bill provides that the excess of the intangible drilling and development costs over the amount of those costs which would have been amortizable on the basis of a 10-year life and which further exceeds the taxpayer's income from the production of geothermal resources constitutes a tax preference for purposes of the minimum tax. Income from geothermal properties would have to be computed separately from the calculation of income from oil and gas properties. In general, the effect of this provision would be to apply the minimum tax to these deductions only with respect to investors who are not engaged actively in geothermal energy production.

c. Gain on sale or other disposition of geothermal property

Section 2072(c) of the bill provides that gain realized on the disposition of geothermal properties is subject to recapture (i.e., treated

as ordinary income rather than capital gain) to the extent the gain does not exceed the amount by which the intangible drilling cost deductions exceed the amount of those deductions which would have been allowable had the costs been capitalized and deducted through cost depletion. Current law applies this rule to gain realized on the disposition of oil and gas properties.

d. Deduction of losses

Section 2072(d) of the bill provides that the amount of any loss (otherwise allowable for the year) which may be deducted in connection with exploring for, or exploiting, geothermal resources cannot exceed the aggregate amount with respect to which the taxpayer is at risk at the close of the taxable year (i.e., generally the amount of an otherwise allowable loss for the year cannot exceed the taxpayer's basis reduced by any nonrecourse borrowing to which the property is subject), as determined under existing law (sec. 465 of the Code).

Section 2073 of the House bill—Percentage depletion for geothermal resources

Section 2073 of the House bill provides a 10-percent allowance for percentage depletion for all geothermal resources, regardless of whether the resource would qualify for depletion under present law or whether the resource in fact is renewable. However, the amount of allowable depletion with respect to any property in any year may not exceed the taxpayer's adjusted cost basis in that property. Thus, once the taxpayer has recovered the cost of the property, through any combination of deductions or basis adjustments, no depletion deductions would be allowable.

G. Other Provisions

1. *Section 2074 of the House bill—Excise tax on rerefined lubricating oil*

Section 2074 of the House bill exempts the sale of new lubricating oil from the 6-cents-per-gallon manufacturer's excise tax where the lubricating oil is sold for use in mixing with previously used or waste lubricating oil which has been cleaned renovated, or refined. For the exemption to apply, the blend of oil and new oil must consist of 25 percent or more of waste or refined oil. All of the new oil in a mixture is to be exempt from the excise tax if the blend contains 55 percent or less new oil. If the mixture contains more than 55 percent new oil, the excise tax exemption applies only with regard to the portion of the new oil that does not exceed 55 percent of the mixture.

2. *Section 2075 of the House bill—Annual report on energy and revenue effects of the energy tax provisions*

The House bill requires the President to submit an annual report to the Congress every August after 1977. The report is to provide estimates of the amount of revenue increases or decreases resulting from each of the provisions of this bill and an evaluation of the extent to which each of the provisions has resulted in increased energy conservation and production. The bill also requires that the President provide such other information as he determines is relevant for an evaluation of the energy tax provisions of the bill.

3. *Section 2081 of the House bill—Congressional procedures for either House veto of suspensions with respect to certain energy excise taxes*

This section of the House bill provides procedures for either a House or Senate veto of a Presidential suspension of the crude oil and natural gas liquids equalization taxes or the tax on business use of oil and natural gas.

III. ESTIMATED BUDGET EFFECTS AND ENERGY SAVINGS OF TITLE II OF H.R. 8444

A. Budget Effects of Energy Tax Provisions

Table 1 summarizes the estimated budget effects of title II of H.R. 8444, as passed by the House, for fiscal years 1978 through 1985; it also shows the cumulative budget effect through 1985 by part of the energy tax provisions in title II of the House bill.

By the end of fiscal year 1985, the net revenues raised under the bill's energy tax provisions are estimated at \$52.9 billion. The major revenue raising provisions during this period are in part II of title II (Transportation Tax Provisions) and part III (Crude Oil Equalization and Natural Gas Liquids Taxes), which are expected to yield \$29.5 billion and \$26.6 billion, respectively. In addition, the excise tax on business use of oil and natural gas is expected to yield \$2.9 billion after the rebate allowed to encourage conversion from oil and gas to coal. The major revenue losing provisions of title II, totaling \$6.1 billion for fiscal years 1978-85, are in part I (Residential Energy Tax Credit), part VI (Changes in Business Investment Credit), and part VII (Miscellaneous Provisions).

The overall net budget effect of title II of H.R. 8444 on fiscal year receipts is \$1.0 billion decrease in 1978, and increases of \$3.1 billion in 1979, \$12.5 billion in 1980, \$15.1 billion in 1981, \$7.3 billion in 1982, \$4.6 billion in 1983, \$5.5 billion in 1984 and \$5.8 billion in 1985.

Table 2 shows the budget effects of the energy tax provisions in greater detail and classifies them by section or by major provision.

Table 3 shows the relationship of the gross crude oil and natural gas liquids equalization tax to the amount available for credits and payments.

Table 4 shows the relationship of the gross excise tax on industrial use of oil and natural gas to its net effect on budget receipts.

Table 5 shows the revenue impact of the business energy conservation, conversion and advanced technology tax credits by type of credit.

Table 1.—Summary of Estimated Budget Effects of Title II of H.R. 8444, as Passed by the House, by Part, Fiscal Years 1978–85

[In millions of dollars]

	1978	1979	1980	1981	1982	1983	1984	1985	Total, 1978– 1985
Part:									
I. Residential energy tax credits	-387	-520	-553	-589	-633	-687	-748	-710	-4,827
II. Transportation tax provisions	87	859	4,239	4,426	4,647	4,853	5,073	5,304	29,488
III. Crude oil equalization and natural gas liquids taxes ¹	-347	3,105	8,638	11,557	3,633				26,586
IV, V. Excise tax on business use of oil and natural gas after business income tax offset and rebate		-25	398	88	164	592	813	878	2,908
VI. Changes in business investment credit	-316	-247	-211	-321	-455	-97	464	502	-681
VII. Miscellaneous provisions	-9	-46	-58	-68	-73	-81	-102	-133	-570
Total, all parts	-972	3,126	12,453	15,093	7,283	4,580	5,500	5,841	52,904

¹ The amounts shown for fiscal years 1978 and 1979 are net of business income tax offset and refunds and after per taxpayer rebates and special payments to rebate the tax collected from 1978 calendar year liability to the general public.

Table 2.—Estimated Budget Effects of Title II of H.R. 8444, as Passed by the House, by Part and Provision, Fiscal Years 1978-85

[In millions of dollars]

Part and section	1978	1979	1980	1981	1982	1983	1984	1985	Total 1978-85
Part I. Residential energy tax credits:									
Sec. 2011:									
Credit for insulation and other energy-conserving components	-361	-466	-491	-518	-546	-576	-608	-541	-4,107
Credit for solar and wind energy expenditures	-26	-54	-62	-71	-87	-111	-140	-169	-720
Total, Part I	-387	-520	-553	-589	-633	-687	-748	-710	-4,827
Part II. Transportation tax provisions:									
Sec. 2021-22: Gas guzzler tax		100	100	100	135	150	160	170	915
Sec. 2023: Repeal of deduction for State and local tax on gasoline	115	780	859	944	1,039	1,143	1,257	1,383	7,520
Sec. 2024: Extension of existing tax rate on gasoline and other motor fuels			3,302	3,404	3,496	3,585	3,677	3,772	21,236
Sec. 2025: Amendment of motorboat fuel provisions	1	4	4	4	4	4	4	4	29
Sec. 2026: Repeal of excise tax on buses	-13	-9	-9	-9	-9	-9	-9	-9	-76
Sec. 2027: Repeal of excise tax on bus parts	-3	-3	-3	-3	-3	-3	-3	-3	-24

See footnotes at end of table.

Table 2.—Estimated Budget Effects of Title II of H.R. 8444, as Passed by the House, by Part and Provision, Fiscal Years 1978-85—Continued

[In millions of dollars]

Part and section	1978	1979	1980	1981	1982	1983	1984	1985	Total 1978-85
Part II.—Continued									
Sec. 2028: Removal of excise tax on certain items used in connection with buses.....	-13	-13	-13	-13	-13	-13	-13	-13	-104
Sec. 2029: Credit for qualified electric motor vehicles.....	(*)	(*)	-1	-1	-2	-4			-8
Total, Part II.....	87	859	4,239	4,426	4,647	4,853	5,073	5,304	29,488
Part III. Crude oil equalization and natural gas liquids tax after rebate¹².....	-347	3,105	8,638	11,557	3,633				26,586
Parts IV, V. Excise tax on business use of oil and natural gas after income offset and rebate:									
Industrial ³		-25	398	88	164	592	715	784	2,716
Utilities.....							98	94	192
Total, Parts IV, V.....		-25	398	88	164	592	813	878	2,908
Part VI. Changes in business investment credit to encourage conservation of or conversion from oil and gas or to encourage new energy technology:									

Alternative conservation and new technology credits ¹	-409	-415	-516	-673	-789	-491			-3,293
Investment credit disallowed on property financed with credits:									
Industrial.....		57	184	238	231	261	298	345	1,614
Utilities.....						34	73	69	176
Investment credit denied, and depreciation limited to straight-line on oil or gas burning equipment, and air-conditioning and space heaters.....	93	111	121	114	103	99	93	88	822
Total, Part VI.....	-316	-247	-211	-321	-455	-97	464	502	-681

Part VII. Miscellaneous provisions:

Sec. 2071. Treatment of intangible drilling costs for purposes of minimum tax.....		-32	-37	-42	-48	-56	-65	-74	-354
Sec. 2072. Option to deduct intangible drilling costs on geothermal deposits.....	-5	-10	-17	-21	-20	-20	-32	-54	-179
Sec. 2073. 10-percent depletion in case of geothermal deposits.....	-1	-1	-1	-2	-2	-2	-2	-2	-13
Sec. 2074. Rerefined lubricating oil.....	-3	-3	-3	-3	-3	-3	-3	-3	-24
Total, Part VII.....	-9	-46	-58	-68	-73	-81	-102	-133	-570
Total, Parts I-VII.....	-972	3,126	12,453	15,093	7,283	4,580	5,500	5,841	52,904

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¹ The amounts shown are net of business income tax offset and refunds and after per taxpayer credits and special payments to rebate the tax collected from 1978 calendar year liability to the general public.

² For additional detail see table 3.
³ For additional detail see table 4.
⁴ For additional detail see table 5.

*Less than \$500,000.

**Table 3.—Crude Oil and Natural Gas Liquids Equalization Tax Under Title II of H.R. 8444, as Passed by the House:
Relationship of Gross Tax to the Amounts Available for Credits and Payments, Fiscal Years, 1978-82**

[In millions of dollars]

	1978	1979	1980	1981	1982	Total 1978-82
Gross crude oil equalization tax collections.....	1,897	6,349	11,294	14,596	4,802	38,938
Reduction in income tax liabilities of business resulting from less than full passthrough of tax to prices.....	-305	-971	-1,720	-1,944	-900	-5,840
Refund for oil used to produce natural gas liquids at refineries.....	-29	-97	-168	-211	-68	-573
Refund for oil used to heat:						
Homes.....	-82	-476	-688	-793	-181	-2,220
Hospitals, schools and churches.....	-9	-54	-80	-91	-20	-254
Estimated per taxpayer credits.....	-1,819	-780				-2,599
Net effect on budget receipts.....	-347	3,971	8,638	11,557	3,633	27,452
Special payments to refund tax collected from 1978 liabilities to qualified recipients.....		-866				-866
Amount available for return to general public in future years from equalization tax liability incurred after 1978.....	-347	3,105	8,638	11,557	3,633	26,586

**Table 4.—Excise on Tax Business Use¹ of Oil and Natural Gas Under Title II of H.R. 8444, as Passed by the House:
Relationship of Gross Tax to Net Effect on Budget Receipts, Fiscal Years, 1979-85**

[In millions of dollars]

	1979	1980	1981	1982	1983	1984	1985	Total, 1979-85
Gross tax before rebate for qualified investment.....		1,734	2,796	3,642	4,678	5,605	6,638	25,093
Rebate for qualified investment.....		-1,298	-2,686	-3,421	-3,990	-4,780	-5,714	-21,889
Reduction in income tax liabilities of businesses resulting from less than full passthrough of tax to prices.....	-25	-38	-22	-57	-96	-110	-140	-488
Net effect on budget receipts.....	-25	398	88	164	592	715	784	2,716

¹ Other than utility.

Table 5.—Business Energy Conservation, and Advanced Technology Tax Credits Under Title II of H.R. 8444, as Passed by the House, Fiscal Years 1978–85

[In millions of dollars]

Credit provision	1978	1979	1980	1981	1982	1983	1984	1985	Total, 1978–85
Credit for nonrebate alternative energy property	-23	-21	-32	-50	-58	-34			-218
Credit for cogeneration property ¹	-28	-41	-80	-127	-159	-91			-526
Credit for advanced technology property (solar, geothermal, and wind-related equipment) ¹	-15	-19	-26	-42	-58	-37			-197
Credit for specially defined energy property (primarily heat recovery equipment; also includes mixed fuel burning equipment) ¹	-224	-218	-250	-306	-350	-225			-1,573
Credit for recycling equipment	-29	-28	-30	-34	-37	-21			-179
Credit for business insulation property ¹	-90	-88	-98	-114	-127	-83			-600
Total	-409	-415	-516	-673	-789	-491			-3,293

¹ Only if applied to or within a structure in existence before April 20, 1977.

B. Energy Savings Estimates of Energy Tax Provisions

Table 1 displays the estimated energy savings of oil and gas under the tax provisions of the House bill. The table entries refer to savings of oil and gas in thousands of barrels of oil in 1985. Overall, the tax provisions of the House bill will reduce the use of oil and gas by the equivalent of from 1.7 to 2.5 million barrels per day in 1985. The residential insulation and solar tax credit will reduce oil and gas consumption by the equivalent of from 270,000 to 333,000 barrels of oil per day in 1985. The transportation provisions will save the equivalent of from 175,000 to 255,000 barrels of oil per day in 1985. It is estimated that the crude oil equalization tax will save the equivalent of from 430,000 to 650,000 barrels of oil per day in 1985. The business use tax and energy investment tax credits are estimated to save the equivalent of from 830,000 to 1,250,000 barrels of oil per day. Also, it is estimated that the incentives for geothermal energy will result in savings of the equivalent of from 6,000 to 11,000 barrels of oil per day in 1985.

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Table 1.—Estimated Energy Savings of Major Tax Provisions of Energy Bill (Title II of H.R. 8444) in 1985

[Range of savings in equivalent of 1,000 barrels of oil per day]

Provision	House bill
Residential insulation and solar tax credits:	
Insulation.....	245— 295
Solar.....	25— 35
Subtotal.....	270— 330
Transportation tax provisions:	
Gas guzzler tax.....	140— 210
Extension of existing gas tax.....	35— 45
Subtotal.....	175— 255
Crude oil equalization tax.....	430— 650
Business use tax and energy investment tax credits.....	830—1, 250
Other (geothermal).....	6— 11
Total (range).....	1, 711—2, 496