BRIEFING ON OPERATION INDEPENDENCE

HEARING

BEFORE THE

SUBCOMMITTEE ON INTERNATIONAL TRADE, INVESTMENT AND MONETARY POLICY

OF THE

COMMITTEE ON BANKING, CURRENCY AND HOUSING HOUSE OF REPRESENTATIVES

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BRIEFING ON OPERATION INDEPENDENCE

WEDNESDAY, MARCH 12, 1975

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON INTERNATIONAL TRADE,
INVESTMENT AND MONETARY POLICY,
OF THE COMMITTEE ON BANKING, CURRENCY AND HOUSING,
Washington, D.C.

The subcommittee met at 2:10 p.m., pursuant to notice, in room 2222, Rayburn House Office Building, Hon. Thomas M. Rees [chairman of the subcommittee] presiding.

Present: Representatives Rees, Neal, Hannaford, Blanchard, Tsongas, Hubbard, LaFalce, Stanton, Brown, Conlan, Hyde, and Fenwick.

Also present: Ben Crain, David Weil, Jim Sivon, and Michael Rattigan.

Mr. REES. The purpose of this meeting is just to have an informal briefing by the Federal Energy Administration.

Last year we had an ad hoc committee on the Domestic and International Monetary effects of energy and other natural resources. The full report is this report that is before you. I have been sending you volumes individually. We now have them in one full report. Parts I and II deal specifically with petroleum, how we got into the situation, and we also make some down the line projections on the use of fuel, new fuels coming in, what the upper or lower bound price might be.

We then went into other areas of the impact of oil pricing in the international field and the effect on the International Monetary Fund and the various proposals to recycle petrodollars. We also did a report on the effect of lesser developed countries, and we had a report on the effect of oil pricing in our own economy and how it affected various income classes.

And then the last report, or the last two reports, one dealt with the Outer Continental Shelf leasing proposals of the Department of the Interior. They are not in here, but if you want them, they are available in my office.

And the last report dealt with other natural resources where we tried to project the possibility or probability of having cartelization in other natural resources, such as bauxite, steel, whatever you might have.

The last report helped lead to the creation of the new Presidential Commission on Supplies and Shortages, which Representative J. William Stanton and I serve on, and we hope one of these days they will have a meeting where we are going to try to look down the line at what is going to happen in terms of our dependability on imported resources.

The purpose of the meeting today, though is not to go so much into the ad hoc committee report, but to get a broad briefing of Operation Independence, and a briefing in terms of energy conservation.

Our jurisdiction fits part of this because we are concerned with balance of payments, and we are concerned on developing domestic energy and lessening our reliance on imported petroleum. Our bill on imported petroleum went out from $8 billion to about $26 billion.

Mr. PASTERNACK. $25 billion.

Mr. REES. So that is a horrendous increase.

So we are going to have to cut down, because we had excessive farm exports last year, and we might not have them this year; and that is what has helped us in our balance-of-payments deficit. We did have a balance-of-payments deficit, but it was not as substantial as a lot of us thought.

So I would like to introduce Bruce A. Pasternack, who is the Acting Deputy Assistant Administrator for Policy.

STATEMENT OF BRUCE A. PASTERNACK, ACTING DEPUTY ASSISTANT ADMINISTRATOR FOR POLICY, FEDERAL ENERGY ADMINISTRATION; ACCOMPANIED BY DR. WILLIAM HOGAN, DIRECTOR, OFFICE OF QUANTITATIVE METHODS, AND PETER BORREL, POLICY AND ANALYSIS

Mr. PASTERNACK. Thank you, Mr. Chairman.

With your permission, I would like to submit my statement for the record and then briefly summarize it, and perhaps spend some time, which I had not planned to, on Project Independence and how that led us to where we are today and how we reached our energy policy decisions.

Mr. REES. And will you be dealing with alternate sources?

Mr. PASTERNACK. Yes.

Mr. REES. And I am especially concerned with the problem of capital intensive development, shale and coal gasification.

Mr. CONLAN. Who came up with these questions?

Mr. STANTON. I did.

Mr. CONLAN. These are darn good questions. I would rather get into these things rather than getting off into shale and oil and gas in the Western States.

Mr. REES. Well, I wanted to get into that too.

Well, let us start off for about 10 or 15 minutes and then we can get into questions.

Mr. PASTERNACK. I appreciate the opportunity to appear here today, and have with me Dr. William Hogan, who is the Director of our Office of Quantitative Methods and is responsible for developing our long-range and short-range forecasts and most of our energy models. And, as most of you know, over the last 15 or 20 years our problem has grown because energy demand has been rising at 4 and 5 percent a year. We have seen oil production declining. It peaked in 1970. Coal production has never again reached the level that it was at in the 1920's. And nuclear power, which, back in the 1950's, everybody thought would be the answer at this time, has just recently surpassed firewood as a source of energy and is now only about 1 percent of our total energy.

Imports grew from zero in the 1950's to about 2 million barrels a day in the 1960's to where it is now, 6 to 7 million barrels a day, depending on the time of year. And the problem as we saw it, as we finished our Project Independence study, was that in the near term we had very little choice with respect to domestic supply because almost all the actions we were taking were new actions which would involve a substantial lead time, either because of institutional reasons, or construction problems, or material, equipment, or manpower problems.

We are just finding the oil and gas for some areas. In fact, what we would have to do in the next few years if we wanted to curb the growth in energy imports would be to cut our demand for energy, to conserve more. The President, in his state of the Union message, prescribed three goals for this country. One, a cut in our oil imports by a million barrels a day by the end of 1975—and 2 million barrels a day by the end of 1977. Second, by 1985 he called for a goal of invulnerability to import disruptions. That has always been a very confusing term; some people have interpreted it as meaning that the United States would be totally self-sufficient and not rely on any imports at all.

But he set out a goal of importing no more than 3 to 5 million barrels a day, which would enable us to basically be invulnerable to a cutoff. We would have a storage program capable of supplying about 3 million barrels a day in case of a supply disruption and we could have standby measures, rationing, allocation, and other conservation measures in the event of a crisis where we could save another million or 2 million barrels a day for a short period of time.

And finally, he set forth the goal of accelerating development of our energy technology and resources so that the United States could possibly supply a significant share of the world's energy needs by the end of this century. And, certainly, we have no intention or, probably, any ability to deal with the world's petroleum needs, but, perhaps, with technology, through coal, through nuclear power, solar energy, and some other newer resources, we might be able to once again be in a position to dominate the pricing of the world's energy, which we no longer do.

As I mentioned, in the next couple of years there is very little we can do to have any effect on supply. There are really only two actions we can take.

One is to develop the Naval Petroleum Reserve at Elk Hills, which could supply about 150,000 barrels a day of oil by the end of this year, and probably 300,000 to 400,000 barrels a day within the next 2 years.

And second, we can expand the conversion from oil to coal in utilities, and we can do that by amending legislation that FEA administers—the Energy Supply and Environmental Coorindation Act; that can save about 100,000 barrels a day of oil this year and, probably, 300,000 barrels a day within 3 years.

Legislation for both of these proposals has been submitted to the Congress by the President as part of the Energy Independence Act. But the supply actions will just barely compensate for the decline in domestic energy production over the next 2 years.

Production has been declining at about 5 percent a year, and we have dropped about 400,000 barrels a day in domestic production over the last year. That will continue as old fields continue to peak and because

newer ones were not developed in the late 1960's and early 1970's, as Outer Continental Shelf leasing was not taking place in those years.

In the energy conservation area, the President proposed an import fee, which all of us have heard about and which is now in effect at a dollar a barrel on imported crude oil and zero on imported petroleum products. And the reason we set it as zero for imported petroleum products was basically to compensate for areas which are heavily dependent on imported residual oil and distillate oil, such as the Northeast, the east coast, and southern California.

In addition, the FEA has in effect a crude oil allocation program which effectively minimizes the cost differences between refiners that can get relatively inexpensive old oil and those with more expensive new oil.

These import fees are temporary. They were put in effect until enactment of a more complete program. The revenues raised by the more complete program are intended to be returned to the economy through tax rebates and tax reductions.

The basic intent of the program is to increase the relative cost of petroleum products without reducing disposable income. In addition, we proposed a 37-cent per 1,000 cubic foot excise tax on natural gas, which is about the equivalent of a $2 a barrel tax on oil, and this tax was proposed in order to try to eliminate the curtailments of natural gas, which caused a great deal of unemployment in this year, and also to prevent industries from switching from oil to natural gas as the price of oil increases.

We have also announced the intention of decontrolling the price of old oil and enacting a windfall profits tax as soon as possible. The use of import fees, excise taxes, and decontrol really have one major intent, and that is to increase energy conservation and to reduce our demand. But there are a number of alternatives to that, and we looked at all the alternatives as we were doing our Project Independence analysis, and after that, as we were preparing the state of the Union message and the energy messages. The first alternative was to do nothing. We considered that.

We rejected it because we felt that no action only postpones the tough decisions that we have to make, and that without starting on the road to energy conservation, there would be no way we could achieve our longer term goals of essentially being invulnerable to embargos and to foreign cutoffs of oil and to higher prices of oil raised arbitrarily. And if we continue to increase our dollar outflow for imported oil, which, as I indicated, was about $3 billion in 1970 and $25 billion in 1974, it would be over $30 billion in 1977. And today more of our imports are coming from the Middle East and from Africa than they were in 1973.

The Canadians have cut back on their exports to the United States and are continuing to cut back, and where we used to get 1 million barrels a day from Canada, we will be down to about 350,000 barrels a day within a year or two.

So unless we do something to deal with our import situation, our imports will increase to about 8 million barrels a day by 1977 from the 6½ million that they now are, and we will also be importing more from relatively insecure sources as compared to very secure sources. We estimate that something like 4 million barrels a day out of the 8

million will be coming from the sources which might be classified as insecure and that a 6-month cutoff at that point could result in something like a $50 billion decline in GNP and perhaps have 1 million to 2 million people unemployed.

There are a lot of people who do not believe that raising prices will affect energy conservation. It is our estimate that if we did not have the higher prices that occurred over the last year, we would now be conserving over 1 million barrels a day more than we currently use.

And the other alternative to not doing anything is the greater use of Government controls, and that is either import quotas, allocation, or rationing. Last year, during the embargo, Congress enacted an Emergency Petroleum Allocation Act which brought us an allocation system, which, although some people may forget as the year passed, had a number of problems, and the way we resolved some of these problems were to take large amounts of gasoline out of inventories, to move large amounts of gasoline from one region to another in a very short time period. We had a high degree of optimism that the embargo would be over, but these actions could not continue for any length of time. We also were prepared at that point, although we did not want to, to go into a rationing program, if necessary, and I think if the embargo had lasted very much longer, we would probably have ended up with a rationing program.

Each of these alternatives, allocation and rationing, involve basically self-imposed shortages, a self-imposed embargo, built-in inefficiencies, increasing bureaucracy, and regulations that would, in effect, have the Federal Government basically making business decisions for every business and almost every individual in the country.

To be effective and to continue the program toward our 1985 goals we would heed allocation programs in effect for the whole time, 10 years, and as you start moving along in the time period, you reach a point where the Federal Government is going back to base periods of 1972 and in the year 1980 is trying to figure out whether business should be moving or growing or whether people should be moving around.

Seeking a solution by a gasoline tax, which is another proposal that was raised, really, by itself, does not address the basic problem we face. It hits 45 percent of the barrel instead of the whole barrel and would have to be two to three times as high as an across-the-board petroleum price increase and, in addition, would involve some regional inequities which we hope we could overcome through our program.

We did announce, as you know, an intention to tilt the effects of the import fee toward gasoline and are now preparing regulations to that effect. The expected level of energy demand, supply, and petroleum imports in the future depends heavily on where world oil prices go and the policy and actions that we initiate.

For purposes of planning we have assumed that the near term price of oil, that is the price of oil over the next couple of years, remains at about the current levels, about $11 a barrel, but that by the year 1980 the price of oil will decline to somewhere in the neighborhood of $7 to $8 a barrel, in 1973 dollars.

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We assumed a decline of price over the next few years for two reasons. First, we felt that it was important to plan against what would be a tougher situation to face in the future, and, second, because the long-range supply and demand patterns in the world, the productive capacity of OPEC and the demands of the consuming nations, indicate that there is no economic justification for prices remaining as high as they currently are.

If no policy actions are implemented, if we continue along the ways we were following, we estimate that petroleum imports will rise to 12.7 million barrels a day by 1985. That is over 50 percent of demand, demand being almost 24 million barrels a day in 1985. That compares to our levels right now of about 6 million barrels a day or 6½ million barrels a day, and a demand of about 16.7 million barrels a day.

The goals of the President's program are met by a combination of energy conservation and increased supply actions that reduce the imports to 3 to 5 million barrels a day. One thing we learned as we went through our analysis during the Project Independence study was that anybody who said you could solve the energy problem strictly by conservation or strictly by increasing domestic supply did not really have the facts. You had to do both. There was just no way that we could reach a goal of any level of invulnerability without taking both conservation and supply increasing actions.

To accelerate domestic supply there are a number of things we could do, but to focus on the two big ones, the ones with most payoff in terms of reducing our oil imports, they are to accelerate the development of our naval petroleum reserves and especially the naval petroleum reserve in Alaska, which we estimate could produce 2 million barrels a day by 1985, and to accelerate the production on the Outer Continental Shelf. The frontier areas of the Outer Continental Shelf are promising. We do not know enough about them yet. We certainly do not know exactly how much oil is out there. There are wide ranges of opinion in the scientific community as to how much oil and gas is in the Outer Continental Shelf.

Mr. REES. 9 billion barrels in the Santa Barbara Channel.

Mr. PASTERNACK. That is a fair amount of oil.

On the demand side we propose a number of very stringent regulatory measures, including mandatory thermal efficiency standards in all new buildings; appliance efficiency goals to improve the appliance efficiency by 20 percent by 1980; a residential tax credit of 15 percent on installing insulation for existing buildings; a low income and elderly winterization program to supply $55 million a year to purchase and install energy conserving equipment in homes of people who cannot afford to buy them; automobile efficiency goals to increase the efficiency of automobiles by 40 percent by the 1980 model year; and, of course, the continued use of higher prices.

These actions will save over 4 million barrels a day by 1985. In addition to that, we proposed a synthetic fuels commercialization program in which the Government will take some steps to provide specific incentives for certain technologies to see that they are commercially produced. It does not mean that we will build 500 synthetic fuel plants, or coal gasification plants, or oil shale plants over the next 10 years. It does not mean a Manhattan-style project for $20 billion a year to build these plants, but it does mean that there will be specific

incentives, either price guarantees, purchase guarantees, direct subsidies, loans, or other approaches to insure that these new technologies needed beyond 1985 are developed.

There are still a number of problems associated with synthetic fuels—environmental impact, water availability, and other technical questions that still have to be solved. They will also cost a lot more than domestic oil and gas production, and while there has been some talk about price floors, it should be clear that we have no intent whatsoever of putting a price floor in effect to protect the price of any of these synthetic fuels.

In addition, we proposed standby emergency measures which could be used in case of embargo and an emergency storage program of up to 1 billion barrels, which could supply 3 million barrels a day in the event of a supply disruption.

There are a number of statistics in the statement which discuss the dollar outflow for petroleum over the next 10 years under varying conditions, and I will not go into those right now. I just wanted to make a couple of points about some of your committee's studies that we have gotten copies of and read. We have no disagreement with statements such as, "The United States has no problem financing its oil deficits over the next 10 years." We believe that to be true.

We believe that our balance-of-payments and balance-of-trade situation is not that bad right now and would be much better, of course, if we did not have to pay $25 billion to $30 billion a year for foreign oil. We also believe very strongly that, as your study points out, the United States can find little comfort in greater security and easing its own balance-of-payments situation when the rest of its consuming nations and trading partners are in serious financial trouble. And as part of our energy policy, of course, we are negotiating and meeting with the consuming nations to arrive at various methods to help their situation.

Finally, I would just like to say that if prices remain high over the next few years, there is no question that our import situation will be better. We are in a very ironic situation in that the higher the world oil price the better our domestic import situation is and the worse most of the consuming nations' situations are and the worse, certainly, the price effects are domestically.

If we have very high prices, we do not have to enact any mandatory conservation measures. We do not have to enact any major domestic supply alternatives. We could be at 3 to 5 billion barrels a day if oil prices stayed $11 a barrel. But there are other effects of high prices that are not beneficial to this country, and it is our long-range intention to try to do what we can to being down the price of world oil.

We believe very strongly that the President's program does accomplish this, and we have set out goals and methods to achieve them.

And with that, I will be happy to answer any questions.

[Mr. Pasternack's prepared statement follows:]

PREPARED STATEMENT OF BRUCE A. PASTERNACK

I appreciate the opportunity to appear before you today to discuss the Administration's proposals for dealing with the Nation's energy problems. I am the Deputy Assistant Administrator for Policy and Analysis. I am substituting for Mr. Eric Zausner, the Acting Deputy Administrator, in his absence.

I'm sure that we all agree that the present energy situation requires broad, decisive and prompt government action to prevent continued erosion of our economic vitality and national security. We need a coordinated national energy policy which restores our energy independence.

Our economic system is strong and resilient, and we have great resources. The impact of recent changes in the world oil market on other countries much more dependent on oil imports has been correspondingly greater. The United States can be profoundly affected by severe economic crisis abroad. We must show our leadership among the industrialized nations and demonstrate our willingness to take hard and expensive steps in energy conservation and development of new energy resources. The President's program is an outstanding example to other countries of America's determination to reverse the trends towards dependency. Reducing our vulnerability to supply interruption and price manipulation must be given the highest priority.

The President has prescribed tough action to cure our energy ills. He has outlined three, time-phased goals.

1. A cut in our oil imports of 1 million barrels per day by the end of this year and of 2 million barrels per day by the end of 1977.

2. By 1985, invulnerability to import disruptions, or imports of no more than 3–5 million barrels per day—and the capability of immediately replacing that amount from storage and standby measures in the event of a supply disruption.

3. Accelerated development of energy technology and resources so that the United States can meet a significant share of the energy needs of the free world by the end of this century.

ACTIONS TO MEET THE SHORT-TERM GOAL

In the first crucial years, few supply actions can have much immediate effect. Production from the Elk Hills, California, Naval Petroleum Reserve, must be developed and increased. The conversion of oil burning facilities to coal must be increased. Legislation for both of these proposals has been submitted by the President. But these supply actions will not be enough in the next two to three years. Therefore, we must promote energy conservation and voluntary conservation measures have not been adequate so far.

The first step in the stronger conservation program has been a $1 fee on imported petroleum products to ease the impact on regions heavily dependent on imported petroleum products, such as New England and the Northeast States, the President's program provides for a lower fee rate on products other than crude oil. These increased import fees are temporary until Congress enacts comprehensive tax legislation which includes an excise tax of $2 per barrel on all crude oil and petroleum products.

The revenues raised will be returned to the economy through tax rebates if the President's full economic and energy program is enacted. The relative cost of petroleum products will be increased without cutting disposible income. Furthermore, the restoration of a full market will remove price advantages currently enjoyed by areas not dependent on imported oil.

A proposed excise tax of 37¢ per thousand cubic feet on all natural gas, the equivalent to the $2 oil excise tax, has been proposed. Deregulation of natural gas should serve to reverse the trend of dwindling natural gas reserves, unemployment due to curtailments, and to prevent industrial switching from oil to already scarce natural gas because of its lower price.

The price of old domestic crude oil is expected to be decontrolled. Congressional enactment of the windfall profits tax is also required to prevent excess profits accruing to the industry.

A program of income tax reductions and rebate measures to return to the economy the roughly $30 billion increased cost of these provisions has been proposed. Most of this money is to be restored directly to consumers, with special measures to provide funds for the poor.

The use of import fees, excise taxes and decontrol of oil prices to foster large-scale energy conservation has attracted much attention and criticism.

I would like, therefore, to outline some alternatives. First, there is the alternative of doing nothing. No action only postpones the tough decisions we have to make. Without conservation, our tab for imported oil, which was $3 billion in 1970, and $24 billion last year (1974), would reach over $30 billion in 1977.

Today, even more of our imports are coming from Africa and the Middle East than were in 1973. Over half of our petroleum imports come from sources outside of the Western Hemisphere. Unless we do something, the dependence on African

and Middle Eastern sources will continue to grow. Without prompt action our imports will approach 8 MMB/D in 1977. The 2 MMB/D reduction will just hold us level.

Every month we hesitate will make it that much harder to achieve our 1985 goals. We must reflect on the future cost to the nation if we do not act expeditiously.

There are those who believe that raising prices of energy at home will not help us cut back on consumption. However, present consumption would have been at least 1 million barrels a day more if prices had not risen so sharply last year. Although the cartel has cut back on production there is still a surplus of oil on the world market despite the pre-embargo concern about the capability to satisfy the growing world demand. There is concrete evidence all around us that price is indeed effective in reducing demand.

The other alternative to inaction is the greater use of Government controls—whether import quotas, allocation systems or rationing. We looked at many of these last year during the embargo. We chose some and rejected others. And our reasoning was good for a short-term crisis. We now face a longer term one. Each of these alternatives would involve some form of self-imposed shortages as well as built-in inefficiencies, burgeoning bureaucracies and regulatory proliferation and disruptions in the lives of all American citizens. To be effective, controls must be in place for a long-term of up to ten years. I doubt that the American people would be willing to put up with such alternatives.

Seeking a solution through gasoline tax increases alone does not address the basic problem of reducing demand. Instead, an increase in all products from a barrel of oil seems a more effective and more equitable solution.

To the maximum extent possible, we should allow the free market to work. This is what the energy conservation taxes and fees would do, while the rebates would assure no significant loss of consumer purchasing power.

FORECASTS OF SUPPLY AND DEMAND

The expected level of energy demand, supply and petroleum imports depends heavily on future movements in the world price of oil and the policy actions which we initiate. The survival of the oil cartel is not guaranteed but their actions will have a great impact on our imports, oil dollar outflow and the associated vulnerability. For purposes of planning, the Administration has assumed that the near term price of oil remains at current levels of approximately $11 per barrel but drops to $7 per barrel before 1980. This has the effect of decreasing domestic supply, increasing demand and increasing the potential import levels when compared to a continual rise in the nominal price of oil.

If no new policy actions are implemented, our estimates indicate that at $7 per barrel, petroleum imports could rise by more than 600 MB/D each year to 12.7 MMB/D in 1985 to satisfy the associated petroleum demand of 23.9 MMB/D. This compares with 6 MMB/D of imports and 16.7 MMB/D of consumption in 1975. This is the planning assumption used in the development of the President's program.

The goals of the President's program are met by a combination of energy conservation and increased supply activities that reduce 1985 imports of the 3–5 MMB/D range. The central supply features of this mid-term program call for the accelerated development of the Naval Petroleum Reserves and the Outer Continental Shelf to produce a combined total of 3.8 MMB/D in expanded domestic production. On the demand side, 900 MB/D due to improved thermal building standards, appliance efficiency standards, and thermal retrofit of residential buildings supplement the 1 MMB/D savings from automobile efficiency standards are the 2.1 MMB/D in reduced demand produced by higher prices and taxes.

These effects plus the impacts of coal conversion and synthetic fuel development should reduce imports to 4.2 MMB/D in 1985. This import vulnerability can be met with standby emergency measures plus an emergency storage program of 1 billion barrels which could supply 3 MMB/D for one year.

The oil dollar outflows of such a program would be $10.7 billion annually under our price assumptions as compared to $32.5 billion if no action is taken.

These figures indicate the importance of our proposed policy actions. Assumptions about future prices or cartel behavior increase the difficulty of designing a comprehensive program for dealing with potential import vulnerability. If the cartel collapses and world prices drop to pre-embargo levels, import demand could rise over 21 MMB/D by 1985 if no further policy action is taken. The dollar outflow would be ove $30 billion in 1973 dollars. On the other hand, if 1985

prices stay near present levels in real terms and no policy action is taken, the high prices alone should reduce import demand to 3–4 MMB/D and dollar outflows will be $12–$16 billion.

These fluctuations in the oil deficit are large, particularly if we take no action, but the oil dollar outflow figures do not address the more comprehensive and more complicated measure of the net balance of payments. The estimation of the oil deficit is a simple matter by comparison and I have no detailed estimates of our expected balance of payments.

However, I do not disagree with the recent study prepared for this committee: (Balance-of-Payments Adjustment to Higher Oil Prices: Managing the Petrodollar Problem, December 1974), ". . . the United States has no problem financing its oil deficits". In fact, the balance of payments problem will be much more serious for our trading partners.

As your study indicates, "The United States would, in those circumstances, find little comfort in its relatively greater energy security and ease of balance-of-payments financing". We must consider the broader implications of the oil cartel as well as its effect on our own import vulnerability. Our policy actions will combine with the programs in other countries to put pressure on the world price of oil and reduce dependence on politically unstable sources of energy. This will in itself produce some variation in the eventual outcome of prices and import quantities. For any outcome, the stakes are high.

We believe that our planning assumptions are prudent and that a difficult but comprehensive program must be implemented. If prices remain high, our import positions will be further improved. In any event, our program assures effective elimination of embargo vulnerability and improves the climate for our trading partners as well, even given our expectations of lower prices. Our task is to determine the least cost method of achieving this goal without reliance on programs which cannot be implemented or have a limited chance of success.

I believe the President's program does accomplish this and I would be glad to answer any questions you might have. Thank you.

Mr. REES. Thank you very much.

For members of the subcommittee who came in a little late, this is Bruce A. Pasternack, and he is the Acting Deputy Assistant Administrator for Policy of the Federal Energy Administration.

I would just like to ask two questions.

One, on some studies we did we felt that the 67-percent increase in the price of petroleum, which is basically the President's program, with a doubling of the price of natural gas would be very harmful at the time when the country is in a very serious recession. We figure that the cost of the program to the consumer would be around $50 billion, and that is the direct cost—the indirect cost is rather hard to compute. This is the worst time to come through with that type of program.

Also, we felt that there were different price elasticities in the various components of what petroleum produces—you might have a relatively high elasticity in gasoline but very low in home fuel or jet fuel. If increases were going to be mandated, they should be made on the specific product in such a way that it would cause the least amount of harm to the consumer.

Would you like to comment on that?

Mr. PASTERNACK. Well, a couple of things on what you said—as you know, we disagree with the estimate of $50 billion in terms of the effects of the program, and have tried to compare, in fairly great detail, our analysis with the analysis of the Congressional Research Service and the Senate Interior Committee and others who have been in the $40 billion to $50 billion range, and I will be happy to make available the details of those analyses for the record.

But, basically, our analysis of $30 billion is not just the direct effects; that is, the direct and indirect effects. And one mistake that

is sometimes made in saying that it is only the direct effect is that when you look at, for example, natural gas, and the price increases for natural gas that would occur under this program, most of the increases would be felt by industry, and most of those increases would be passed along to the consumer. Those are indirect effects, as opposed to the direct effects on the consumer.

There are certain ripple effects that would occur a year or two from now as the result of, maybe, higher wages, higher prices of certain raw materials, which we have also included in our estimate. All these details are in the comparisons. As far as the timing and the specifics, as to what products, he placed the emphasis on—one thing I learned—and I am not an economist—but one thing I learned over the last year and have had drummed into me by all of our economists is that elasticity is a very funny word.

There is no such thing as an elasticity of oil or an elasticity of gasoline. There are elasticities with respect to demand that have to take into account the ability to switch to other products, the ability for conversions and timing in short term elasticities or long term elasticities. In fact, gasoline does not have the highest elasticity of demand. There are other products. And over a certain period of time, residual oil, for example, would have a higher elasticity than gasoline. There would be more opportunity to convert, and there would be more opportunity to save.

We believe that there is an important need to conserve all parts of the barrel. And while we put forward a program which does not do so across the board, we recognize the concerns of many people as to the emphasis we have placed on other parts of the barrel than gasoline, and that is one of the reasons the President announced his intention to tilt the program and the effects of the program toward gasoline.

In fact, the way we have proposed it now, it would put roughly two-thirds of the increase on gasoline and one-third on other products. The timing of implementing the program, the force of the program at this time is certainly one that we have been discussing with all of the committees in the House and Senate, and one which we are still negotiating.

Mr. REES. In this question period, everyone can ask one question, and let's do it informally. I am not much in love with the seniority system.

Mr. STANTON. Mr. Pasternack, as Mr. Rees has said, this subcommittee is primarily interested in the international aspects of oil, including the price of the oil and its relationship in the international monetary fund. That is where our basic interest lies.

My question is one of curiosity. For example, we read about the oil floor price scheme and we have other dealings with the Arab countries and the French. In the international monetary considerations you have the Treasury Department involved and of course we have the FEA, of which you are a part.

The question is: Of what importance would you put your FEA in regards to our relationship with the international aspects of this problem? Do you think our majority input should be from the Treasury Department, the State Department, the FEA, or a combination.

Mr. PASTERNACK. As you know, the mechanism we have been using to deal with this whole energy problem has been through the coordination of the Energy Resources Council which the President

established under Rogers Morton with Frank Zarb as the Executive Director. That, indeed, is where most of the basic policy decisions are being made, and most of the basic policy recommendations are being made to the President from the Energy Resources Council.

So in that respect, Frank Zarb and Rogers Morton, representing their agencies, are heavily involved in the international questions. Certainly the lead within the Federal Government for negotiations with the producing nations and the consuming nations, has been and continues to be primarily in the State Department under Secretary Kissinger and Assistant Secretary Enders. They have been doing most of the negotiations on both the price floor concept, the safety net, and the negotiations with the producing nations on world oil prices and security supply. The Treasury Department plays a major role in the international recycling question and in the financial markets of the world.

That is probably a roundabout answer to your question but I think all agencies are involved; however, State and Treasury have the majority of the lead on the financial side.

Mr. TSONGAS. May I ask two questions?

Mr. REES. Yes, sir.

Mr. TSONGAS. One is that we had a meeting of the New England caucus yesterday and there was great concern about conservation of petroleum. Well, in New England at this point, I do not know what the case is in other places, but the major oil companies are forcing the retail gasoline dealers to stay open on Sundays to lower the price of gasoline and lowering the price coming from the gasoline dealers' profits, and also extending their hours, the obvious intent being to increase consumption of gasoline, I would assume, because there are excess supplies.

Now if you are talking about conservation, oil companies are engaged in what is at best an unwise policy. It may even be unpatriotic given the way things are going. Why is there no attempt by the FEA to police this, to stop it, and to, in essence, be as tough with the oil companies as the President is apparently able to be with the consumer?

Mr. PASTERNACK. Well, we have started to deal with this, but it has been a fairly recent development and we are still not sure how widespread.

Mrs. FENWICK. It is in New Jersey, too. You get a kewpie doll if you buy 10 gallons.

Mr. TSONGAS. A year and a half ago I became a lawyer for the Gas Dealer's Association in my district and at that point a year and a half ago they were muscling the gas dealers for all kinds of incentives to stay open and devise all kinds of gimmicks and so forth. That is taking place at the grassroots level and the only activity that we see by the FEA is policing the gas stations and not in any sense policing the oil companies.

There are two problems. One is the whole question of credibility, which affects your presentation. And second, the question of equity. It is perceived that the Government is moving rapidly with respect to the consumer and with respect to the small businessman, and yet those who have made a great deal of money from the policy somehow or another are unfettered. And once you have sense of inequity, it is impossible to get the Congress, I would think, to go along with these policies.

Mr. PASTERNACK. I cannot agree with you more, and let me try to explain as best I know exactly what we are doing on this.

First, there are certain limitations to our statutory responsibility to get into contracts, and there are existing contracts between industry and the service stations. Where we can exert pressure on the industry, we are now proceeding to do that. Frank Zarb has met personally with the retail service station dealers within the last 2 weeks and he is meeting with some of the oil companies involved in these, and his intention is to do whatever he can to bring whatever pressure is necessary to stop these unnecessary actions.

Mr. CONLAN. Does he have any statutory authority or is it just jawboning?

Mr. PASTERNACK. To a large extent, it is jawboning and putting pressure on.

Mr. REES. Well, he can allocate. He has that power.

Mr. PASTERNACK. Allocation, basically does not hurt the retail oil dealers that much. It really does not. All the allocation tends to do is; one, it cuts back on supply and ends up hurting your consumer more than anything else, and you want to be careful that we do not take a circuitous route and end up with something that is not beneficial.

Mr. TSONGAS. You are going to be getting a letter from me and hopefully some of my colleagues on this next week.

Mr. PASTERNACK. We are prepared to respond very quickly.

Mr. TSONGAS. The second question is: You expressed a surprising nonconcern about the balance-of-payments problem; could you explain that?

Mr. PASTERNACK. Basically, what I was saying is we are concerned about the price we are paying for foreign oil and the amount of money going out of this country for foreign oil. And in fact, when you talk about $25 billion or $30 billion a year going out of this country and going to the Middle East and the producing nations, that is something that concerns us very much and it concerns us that it is money that could be going into our Treasury and could be multiplying here in this country as opposed to producing nations.

Nevertheless, despite the $24 billion we spent last year for foreign oil, I believe, if I remember the numbers, our balance-of-payments deficit or balance of trade deficit was something like $6 billion or $7 billion, and that indeed was a relatively healthy sign.

Mr. BROWN. But if the gentleman would yield, I think a lot of that deficit offset was a result of the sale of farm commodities which you may not have again.

Mr. HANNAFORD. That is exactly the question of which I am concerned. When you said you were not concerned about the long-run balance of payments, it seems to me that that really is our only concern. If we really in the long run have a balance of payments, we would not really be that worried about using foreign energy. As a matter of fact, the best thing we might do is use foreign energy as long as we have on this globe a relatively short term of fossil fuels to use.

While we are developing our alternative energy sources, we would be better off to use the foreign energy so long as we can maintain a balance of payments.

Is that not a reasonable analysis?

Mr. CONLAN. But did he not say there were two factors, one, the economics in the balance of payments, and two, the security factors, as to what you are dependent upon? Can you move in without an economic disaster?

Mr. PASTERNACK. The problem is as much one of security and the ability to control our foreign policy and our domestic policy and our domestic economy, as it is one of balance of payments.

In other words, if we cannot control the price of oil in oil and energy of such basic quantities to our existence, then we are not in control of our foreign policy and we are subject to very wide disruption through changes in prices in a very short period of time.

If the price of oil dropped today from $11 a barrel to $3 a barrel, and then 2 years from now went up to $11 a barrel again, this would throw tremendous contortions into our domestic economy. That is where our primary concern is.

Mr. HANNAFORD. It seems to me if we really are not worried about the balance of payments in the long run, that what we really need to do would be to have some device ready to put in place at any time to ration or very rigidly regulate fuel. Therefore, all we would have to do would be to demonstrate to the OPEC countries that we are tough enough in the short run to put into effect a rigid austerity program. With this system they would have to deal with us both in terms of our defense and in terms of their ability to break up the price.

Mr. PASTERNACK. That was true last year when we were importing 5 million, 6 million barrels a day. It was true when we could survive a cutoff of 1 million or 2 million barrels a day. The problem that we face now, or we are starting to face now and we will be facing more in 2 years and even more 5 to 10 years from now, is that instead of being at 5 million to 6 million barrels a day, we will be at 12 million or 13 million barrels a day. And while we can absorb maybe 1-million or 2-million-barrel-a-day cutoff for 10 or 15 percent of our use, if we were at 13 million barrels a day of imports and were cut off, say, 8 to 10 million barrels a day, then no allocation program and no rationing program could really get us out of that situation.

We used to say last year that the embargo came just at the right time. If it had come 2 years before, it would not have mattered because we were not importing that much and we would not have even felt it. And if it had come 2 years later, we would be importing too much and we would not be able to survive the problem.

Mr. CONLAN. I think you have summarized it real well. You have to use conservation practices and you have got to get more production.

I have heard all kinds of stories about why it is taking us so long to get offshore productions going and about the agencies and Interior and you and across the line.

Who makes the decision as to whether you are going to drill or not?

Mr. PASTERNACK. Well, it depends on the area. The Interior Department has the full control of the Outer Continental Shelf program. They submit areas for lease. They run the development program. They have the full control.

Now the problem in some areas, and it varies by area, is that at this time, as most of you know, the Atlantic Coast States have been contesting the right of the Federal Government to lease offshore the Atlantic coast.

Mr. CONLAN. There is no further environmental studies that need to be done? You could decide tomorrow?

Mr. PASTERNACK. No. Every lease sale requires an environmental impact statement, and the Interior Department has done a draft environmental impact statement for the whole program, or a so-called programmatic statement which talks about the whole Atlantic coast in broad terms. But for every lease sale there has to be a specific environmental impact statement dealing with the specific tracts that are going up for sale, what the impacts would be as a result of that development.

Mr. CONLAN. How long does it take to get one of those done?

Mr. PASTERNACK. Generally, it takes——

Mr. CONLAN. Ninety days?

Mr. PASTERNACK. No; longer than that. Generally, it takes 6 to 9 months. It used to take a little over a year but people are getting more professional about it now.

Mrs. FENWICK. The impact study for the coast off of New Jersey was supposed to be July and it is going to be September now and that has been about a year.

Mr. PASTERNACK. It takes 9 months or so to complete a statement, the problem being that you have to get into an extraordinary amount of detail about the environment as it now is in that area. And so you have to do original work and measure the biology and everything else.

Mr. CONLAN. Is this a question that there is a limited number of experts, or would there not be some way to speed that up?

Mr. PASTERNACK. Well, you could not do it too fast because you cannot do it before you are ready to develop the lease because the conditions change from year to year. So it takes some time to just go out and measure the current conditions and to do the impact studies.

I do not think if you doubled or tripled the staff at Interior that is working on impact statements, you would notice much difference.

Mr. CONLAN. All authority for this is in Interior. All the head-cracking is done in Interior?

Mr. PASTERNACK. The Interior Department runs the program and they prepare environmental impact statements.

Mr. CONLAN. Let me ask two other quick questions. Stockpiling—where are we on stockpiling, and where do you see any independence through stockpiling? Five, ten years down the line?

Mr. PASTERNACK. There are now, as you know, inventories and every company has inventories, and we have a couple hundred million barrels of gasoline in inventory. These things are fed into the pipelines.

Mr. CONLAN. What are they now, 90-day? Thirty-day?

Mr. PASTERNACK. I believe the inventories of gasoline are about 240 million barrels, and we use about 7 million barrels a day. So that is roughly 30 or 40 days of storage, although most of this is in pipelines and unavailable in emergencies. Within that range is about where we are on most products. What we are talking about is a 1-billion-barrel-a-day storage program would be a whole new system in which we would store crude oil primarily, since there are difficulties in storing products and which would be developed probably in large part along the gulf coast in the salt domes. There are problems with steel tanks in terms of steel availability and costs.

Where we are at the present time is we have submitted legislation for which there have been hearings this week in both the Senate and the House, to actually get the authority to develop these programs, and to get the authority to purchase the facilities.

Mr. CONLAN. Will this all be Government owned?

Mr. PASTERNACK. Well, that is one of the questions that is still up in the air. There are a number of questions that have to be answered. Where are they? What do you store? How much? What refinery capacity do you have to complement it if you have to use it? When do you use it? Who owns it? Who finances it?

Mr. CONLAN. And so for the next 4 or 5 years, as far as stockpiling is concerned, we will have none and we are really talking about a 30- to 40-day reserve.

Mr. PASTERNACK. No, not quite. We would expect that within 1 year, let's say, after the enactment of this legislation, we would begin to prepare the facilities and that within a few years we could have, say, 100 million barrels in storage.

Mr. CONLAN. It has got to go double that.

Mr. REES. Mr. Conlan, could I break in?

We studied this. It is on page 162 of this report. We went into a complete analysis. The figure we took is that our storage capacity should cover our imports from insecure sources, basically the Arab countries, over a 6-month period, and that should be the total amount of storage. There is one way of storing that is very inexpensive, and that is Elk Hills or Naval Reserve No. 4 up in Alaska.

If you drill a field, improve the field, and then shut it down, that is the cheapest form of storage, as long as you are not capitalizing the cost of the oil in the ground.

So I think that it would be wise for storage, since it takes about 3 months to build a field or to get production going, if you had a combination of aboveground storage backed up by salt domes and then backed up by future Elk Hills production. We could do this on the OCS drilling.

For example, we could checkerboard the area, leave an area that is the property of the people of the United States, improve the field and then cap it. That could be prestorage.

Mr. CONLAN. One further question here. I think that is very interesting and if you tied that into this whole area of excess profits tax you might as well give them some kind of writeoff to plow that stuff back in. And this is where the hangup is.

So just putting it in the Government till to use as Government overhead is foolish. If the energy company were forced to plow that back into those type of reserves and developments, they are going to get no cash out of it along those lines. I think we would be far wiser. I still have not had a good explanation as to what is wrong with a quota.

Why can you not say we are cutting 1 million barrels a day and we are going to apply it evenly to all countries that export to us—"Sorry about that, fellows. We are buying 5 percent less. There is no currency available for it or otherwise."

Mr. PASTERNACK. The problem is not one of telling the producers that you will import 1 million barrels a day less. The problem is what effect it has domestically.

Mr. CONLAN. Wait a second. You have just come in under the whole program here and say, "We will increase the cost through a tax to force the consumption down."

Now to me that is six of one and one-half dozen of the other.

Mr. PASTERNACK. Well, not necessarily. You have two options when you have a quota. The first option is to let the price rise to take care of the shortage. That is the same as the tariff, no difference. In effect, that is basically what we are proposing.

Mr. CONLAN. So in effect then the answer to the quota thing is that I was supposed to vote for a tax increase to put it in the governmental till rather than leaving the money in the private sector because they needed the revenues to offset the tax reduction scheme that they came up with that failed over in the House.

Mr. BROWN. It is also financed by deregulation. You get money back in for exploration and further domestic production.

Mr. CONLAN. I do not see how that fits in.

Mr. TSONGAS. Well, you reduce your consumption by creating a depression, which then lowers the need to consume.

Mr. CONLAN. Well, that you have to do if you want to make yourself more impervious to external assault.

Now if you are not interested in the results of external assault, then you can drink right up here to the sky.

Mr. TSONGAS. But I think your question is well taken, but I still do not understand the answer, why the import quota system with the allocation given to the States does not make more sense than a tariff that is very dislocative to the economy.

Mr. PASTERNACK. Let me finish that. I started to say there were two things you could do if you had a quota. The first was to let the prices rise to take care of the shortage and that was indeed very similar to a tariff.

The second thing——

Mr. CONLAN. To hold the money in the Government till rather than the private sector.

Mr. PASTERNACK. That is right. The second thing you can do is to hold the prices, hold the price of the oil and allocate the shortage. You cannot arbitrarily cut off a million barrels a day without having an allocation program.

Mr. CONLAN. Why?

Mr. PASTERNACK. Because what happens is you create severe regional problems. What you will do is you will hit the areas that import most. You will hit the Northeast and the Middle Atlantic States, which are almost totally dependent on imports.

So there has to be some form of allocation to take care of the regional problem of the shortage. Now when you get into an allocation system to deal with a million-barrel-a-day cutoff, you then end up with making a number of decisions.

Mr. CONLAN. Wait a second. You are saying you subsidize the price of the oil in the Northeast rather than the Midwest. That sounds like legalized stuff.

Mr. PASTERNACK. Indeed. If you just cut off 1 million barrels a day——

Mr. LAFALCE. You have to have a mandatory allocation system coupled with an import quota system.

Mr. CONLAN. Why can the price system not regulate that?

Mr. PASTERNACK. Well, if the price system regulates it——

Mr. CONLAN. Well, if I am farther away in Arizona from some of your manufacturing goods, I have to pay transportation goods. You do not think of me in the West. You say, "Screw you. Tough."

Now you are saying if the oil comes domestically and you have to pay a little bit more for transportation costs, then you want the Government to ask for relief?

Mr. LAFALCE. If we did not have an allocation system, what you are talking about is 30-percent unemployment in the Northeast at the minimum. You must have a mandatory allocation system, if you are going to have import quotas. I would like to get their opinion on the combination of the two, and why not that combination rather than the President's proposal of the increased tariff?

Mr. PASTERNACK. Sure. There are a number of reasons why we feel that is a very bad idea.

Now let me try to enumerate a few of them. First, when you arbitrarily cut off and you allocate, you then run into some of the same problems we had last year, which are who do you allocate to?

Mr. LAFALCE. Let's not use the word "arbitrary" in connection with a quota unless we also use the word "arbitrary" in connection with a tariff, or let's eliminate it altogether.

Mr. PASTERNACK. OK, you establish a quota, a fair and just quota, and you establish a fair and just allocation system and you allocate equally to all parts of the country and all segments of the economy. That is, you do not have any special problems or any special exemptions for farmers, for hospitals, for certain businesses that have to have certain amounts of petroleum. In fact, that is not what happens. You generally end up making some concessions, you make some exceptions.

You then say, "All right, Iowa gets more than New Jersey. Iowa gets 98 percent of its share and New Jersey gets 85 percent." That is indeed what happened last year, in effect, back in the good old days of the embargo, as some people refer to it. We had one State coming in as the other State was leaving saying that we had unfairly given them less than the others.

OK, that is the first thing that happens.

The second thing that happens is that you take away any incentive——

Mr. TSONGAS. Before you get on to the second, the first is simply some people are unhappy. You get visitors from various States. But that is not a strong argument against the program.

Mr. PASTERNACK. No, but what it says is, in fact, the areas in the Eastern States, for example, will get a smaller share of the available pie than they would if you did not have any exceptions.

The second thing that happens is you remove the incentive for competition completely because what you do is you say there is now a shortage. There is a shortage of a million barrels a day, let's say. Suppose half of it or all of it is in gasoline. Well, there is no incentive at that point because there is——

Mr. LAFALCE. Incentive for what?

Mr. PASTERNACK. Incentive for competition in terms of price. So despite the fact that people say price controls will continue in an allocation program, what indeed happens is that dealers, service station

dealers, in particular, are able to get the full margin they are entitled to instead of having to compete as they are now competing, and that is why you are seeing certain reductions in gasoline prices. In fact, if you talked to most retail service station dealers, they will generally favor an allocation system and there are other reasons but that is one of the reasons.

Mr. REES. You are talking about a couple of cents a gallon, are you not?

Mr. PASTERNACK. Last year, in a very short period of time, only a few months, we ended up having to increase the margin of service stations by about 3 cents a gallon, and that was only a couple of months. That is because while they were open less, they had less services than some other areas. They were forced to observe some of the same fixed costs that they had otherwise and they were selling less, and so their volume was going down and they were in serious financial trouble.

Mr. TSONGAS. Three cents takes them now to 10 cents. So a gallon of gasoline then costs 55 cents; 10 cents of that is going to the gas dealer, 45 cents is going someplace else. And we are talking about competition. I know part of it is Federal and State tax but how much of that is to the oil companies? Why is competition always seen in terms of the retail dealer?

Mr. PASTERNACK. Because, in effect, they are the ones that suffer the cutback because they are the ones that sell less as their volume goes down.

Mr. TSONGAS. Why are we concerned about competition between gas dealers in terms of price? What difference does that make? Let's say they do not compete, they all stay at the same price.

What is so wrong with that?

Mr. PASTERNACK. There is nothing wrong with it as long as you realize that allocations do not mean a free ride in terms of price because of the forces that will be in effect. You just want to have the shortage, you want to have the fixed array of costs and other costs and you will not have any need to compete on price.

So you will see full margin being achieved as opposed to now where you are seeing less than the full margin achieved.

Mr. LAFALCE. The full margin you are suggesting might mean 3 cents more per gallon.

Mr. PASTERNACK. Or more because that was only a period of 3 months or 4 months. But the third point, that is an important one——

Mr. TSONGAS. Before you get off that if you are concerned about 3 cents difference because gas dealers do not compete and you impose an oil tariff to offset that problem—well, go ahead.

Mr. BROWN. Well, one thing, it would have been helpful if both of you gentlemen could have been here during the time that they were allocating because you would had part of the problem at least. I'd hate to have to listen again to the number of allocation complaints and the people needing special treatments because of reduced sales, transition within a community which changed the buying habits of the public, et cetera.

Mr. LAFALCE. But you see, with that rich experience we are going to do much better.

Mr. TSONGAS. But it seems to me at that time the people saw the embargo as a short term problem and did not make any readjustments

in their lifestyle, or carpooling or any major readjustments because they figured as soon as the embargo was over, we are going to go back to the easy, convenient gasoline source.

And the administration has not done a very good job of making the American public realize this is a long term problem and you have change your lifestyle.

That is the difference between what happened in 1973 and hopefully, what would happen today.

Mr. BROWN. But if you go volumetrically, would it not contemplate a shorter period of time? Marketwise contemplates 5 years or better. In effect, a gradual reestablishment. Whereas, if you do it volumetrically by quotas, et cetera, you suggest is is only for the short term for no one wants the quota system and rationing for 5–10 years

Mr. HYDE. There was one more point he had to make.

Mr PASTERNACK. The longer we talk, the more I will think of. There are several other points. Maybe I will just hit them quickly

We have done some estimates as to what various levels of allocations or various cutoffs would mean in terms of either price increases or waiting time increases. In fact, the queuing at gas stations would go—we estimate if you had, say, 700,000 barrels a day of allocation of gasoline, that if you did not have a price increase you would have an average wait of 45 minutes to an hour at the service station.

Now the next point you get into is this, even if you accept all these things—well, how long do you accept them for? Do you accept them for a year, and then what happens 2 years from now?

So what happens 2 years from now is you now would have been importing 8 million barrels a day You could not live with the same 700,000 barrels a day cutoff because that is not enough. Hence, what you do is you have to go a little bit higher and what you do is you end up cutting. You end up decreasing allocation fractions to maybe a 1½ million or 2 million barrels a day.

When you get into 1½ million or 2 million barrels a day, you have got the same kind of problems magnified, and then what you are doing is, in effect, not creating any incentive at all for any increases in domestic supply, because you have not changed the domestic supply pattern, and instead what you are doing is you are continually hitting harder and harder as you go through time.

Mr. LAFALCE. I do not understand how we are going from imported oil vis-a-vis import quotas and then we are talking about the domestic oil program.

Mr. PASTERNACK. They are interrelated.

Mr. LAFALCE. I know they are interrelated. But if we were to establish import quotas and a mandatory allocation system, how would its effect upon production of domestic oil differ from the effect of increased tariffs on imported oil upon the production of domestic oil?

Mr. PASTERNACK. Well, with just strictly increased tariffs, it would not have much of a difference. But in our program, what we are talking about is not just the tariffs, the temporary tariffs, but decontrol.

Mr. LAFALCE. You could talk about decontrol and import quotas too. So I do not think that is a fair argument at all.

Mr. PASTERNACK. OK, I will accept that.

Mr. HOGAN. Quotas with decontrol, allowing the price to readjust are similar to tariffs. The difficulty begins when talking about quotas with price controls and allocations. Then the market system is not adjusting for the various consumers of petroleum, and you need a very complicated allocation system. If we knew how to allocate perfectly without changing the prices at the same time, it would not make a difference, we could use quotas and have allocations, and we could decide who would receive what and who would consume what and how it would change over time. We would determine which businesses are declining and would receive less and which are expanding to receive more.

The trouble is, we do not know how. We do not know how to run an allocation program of large magnitude over a long period of time when the economy is changing.

The purpose of taxes and prices is to allow——

Mr. LAFALCE. Well, rather than allow going to this 1 million figure—an arbitrary 1 million figure—could we not phase it in? Is there any imperative need for 1 million this year? Could we not phase it in with an allocation system, for example, so that we would have this period of time to see the effects coupled, of course, with the experience we have already had?

Mr. HOGAN. The trouble is, eventually the allocation must be a very large number. You could phase it in, but if you are going to get to the long term goal, you have to handle a very large number.

Mr. LAFALCE. I do not have any problem with that.

Mr. REES. Let me ask on your timing now. It is estimated that your program will run the inflationary rate up another 2 to 4 percent.

Mr. PASTERNACK. Two percent, as a one-time shot this year.

Mr. REES. Well, some of our economists are saying 4. So let us split it and say 3.

Now, that is at a time when prices are going down. If you check your raw material prices in the Wall Street Journal, they are going down; the rate of inflation is going down, obviously, because it is a recession and there is less buying power and less demand.

Now, to kick that up again with an increase of 67 percent in your fuel prices at a time during this terrible recession, it seems to me to be very counterproductive when you are looking at the economic situation for the next 12 months. Now, 12 months from now the economy might be able to take this type of kicker, but we heard Charlie Schultze and then John Sawhill the other day, and they more or less had this view that at this time it is very difficult for the economy to take this kind of increase in a very basic commodity.

Mr. PASTERNACK. Well, of course, that is a key question that has to be resolved. It is one that we judged, that we felt that our program could absorb and that with tax rebates and tax cuts and everything else that we could offset the increased inflation rate by maintaining consumer buying power over the next year.

Now, that is something that, obviously, a lot of people do not agree with and, certainly, one thing that we are talking about in negotiating——

Mr. HANNAFORD. Arthur Burns expressed that view also.

Mr. REES. Well, I think a problem that a lot of us have, and John expressed it, is that the program seems to be a do-or-die program of all the chips, on the process of raising the price of petroleum and natural gas at least 67 percent.

But we might go into more of a micro approach and say, all right, now let us put an excise tax on all new cars not getting at least 20 miles to a gallon. Let us put a tax on peaking power in terms of electrical development. Let us to through 60 or 70 separate moves which, added together, would give you that approximately 1-billion-barrel cut.

What about Sunday closings, or what about having only a few gas stations open on Sundays for emergency purpose; what about limiting the hours that a station might be open? You can see about 60 or 70 different things that can be done to achieve this. What you are trying to do with the pricing mechanism.

Mr. PASTERNACK. There is no question there is a wide range of alternatives available. We started out, when we got into this process in the state of the Union message, with maybe 100 different alternatives, ranging from Sunday gasoline programs to 1-day-a-week driving bans, to rationing, to allocations, quotas, gasoline taxes, taxes across the board, rebates, and excise taxes on new cars. We feel that the program that the President has proposed is both a simple program in terms of its operation and one which can be accomplished and can achieve the goals we set out.

Now, that is not to say that is the only approach and that there are not tradeoffs as to where you put your values in terms of economy, in terms of regional impacts, in terms of timing, in terms of energy independence and dependence, and those are all things that we discussed.

Mrs. FENWICK. Could I say something?

I would like to associate myself with your remarks, because all this seems so unreal to the general public; and if it is going to involve the general public in a smashing price increase right across the board, not just in their fuel oil or their gasoline. As one manufacturer said, "My utility bill has already gone up from $3 million to $6 million a year," which means that his products will be more expensive.

How do you make this real to the American public, when you get a kewpie doll for buying 10 gallons or more? There is something that does not make sense. Either there is an emergency—a shortage—or there isn't. What statutory powers do you need to control the oil companies? What kind of statutory powers do you need in order to be able to say to the oil companies, not the dealers, "You are going to have to make sense on this?" The experts say, "This is a real problem," but it does not seem real.

The oil companies are able to force the dealers to promote sales, which is entirely contrary to the public interest and there truly is a shortage. Naturally, the public receives only the impression that they get driving down the highway.

Now, what do you need to control the oil companies? What kind of statute do you want?

Mr. PASTERNACK. I have to be honest. That is something I am not personally qualified to answer.

Mr. TSONGAS. Let me get back to you this week, because we are working on that.

Mr. REES. Well, this is a quorum call.

Mrs. FENWICK. What do you think we ought to do about Elk Hills?

Mr. PASTERNACK. Produce it.

Mr. REES. Let me say the bells are for a quorum call. Now, would you like to come back and continue this, say, until around 4, or adjourn, or what?

[Discussion off the record.]

Mr. REES. There are several problem areas that I am interested in. There is title IX of the Energy Independence Act. There is a Kissinger proposal to set up a tariff system so that a lowering of OPEC prices that would not put our high cost energy sources out of business.

I have talked with executives in the oil industry, such as a producer who is basically dependent on domestic sources and very much into the development of Alaska. Because of the high capital cost of developing coal gasification plants, or shale plants, synthetic fuel plants, what would you think about a joint venture with the Government to pick up some of these front-end costs? You have to put up $100 million for your bid. That goes in the general treasury and does not come back into energy production. He said it is a darn good idea.

Now, since I talked to the gentleman, this company has gotten out of both the tar sand project, and they have abandoned their shale project. And basically it is because of the capital intensiveness of this type of development. They are spending all of their money on the Alaska pipeline, and this is a company that is devoted strictly to energy. They are not buying outside companies.

Now, should there not be some method of a joint venture? We have lots of examples in this country and other countries where joint ventures have worked out very well. Otherwise, the front-end capital costs tied in with the front-end bonus bid would just put them out of business.

Mr. PASTERNACK. There are really two problems, and they are completely different. One is the question of what do we do with our traditional and conventional domestic sources of energy, oil, nuclear, coal? And the second one is, what do we do with some of the newer technologies, the coal gasification, liquifaction, oil shale, and others? They are two different problems, because the price or the cost of producing from these technologies varies tremendously. Whereas you can produce most oil for $5, $6, $7 a barrel, maybe tertiary recovery and advanced recovery——

Mr. REES. Why do you not start at $2?

Mr. PASTERNACK. There are not many of those left. It costs $12, $13, $14, maybe $20 a barrel to produce some of those. When we started thinking about what do we do if the price of oil comes down below its current levels, what do we do if it is $7; what do we do if it is $4; where do we get concerned?

The Federal Government felt that it was not our problem and concern for the proper solution to put in a price floor, or price support, to support something that would be $15 a barrel or $14 a barrel, because then you are subsidizing not only that one, but you are subsidizing everybody that gets in at $5, $6, and $7 a barrel.

So the first thing we ruled out was any price floor at that kind of level, and, in fact, what we have proposed in a synthetic fuels program is a set of joint ventures, subsidies, loan guarantees, purchase guarantees, price guarantees, whatever, to bring on gasification, liquification, and oil shale, and we are right now actually starting that.

It will problably be under the auspices of ERDA or FEA.

Mr. REES. So if I wanted to go into the shale business, and I said we are going to need a half billion dollars, if I spend a half billion dollars, I want something like 12-percent profit on my investment, and I also want a target price guaranteed by the Government. Now, this could be guaranteed by purchase contracts, and therefore you would not affect the prices of other cheaper energy.

Mr. PASTERNACK. That is exactly the approach that I think—I am not sure that it is guaranteed through a contract or subsidies or what it is. And that is one of the things we are working on. But that is exactly the way we plan to go with the new technologies.

Now, on the price floor concept, what we asked for in title IX was the authority and, in effect, the way the thing is worded it says that the President would be authorized and required to establish either a price floor, quota, or tariff, or something to protect the level of domestic oil prices if the price of oil drops to something that threatens our vulnerability and independence. Now, that again is very general terms. Now, what we meant there was, if the price of oil dropped to $3 or $4 a barrel, then two things can happen. One, demand is going to go up again, and it is going to go up very quickly, and our projections were $4 a barrel. And we would be importing 20 million barrels a day.

Second, the sources, like the OCS and Alaska, while they do not cost $10 a barrel, they do cost $5, $6, $7 a barrel, and those would become very quickly uneconomic. We felt that there was a need for the U.S. Government to say that the era of cheap energy is over and that we are never again going to see $3 a barrel oil prices in this country. And from the standpoint of our own protection and the standpoint of energy conservation and the protection of the conventional sources of energy, we are going to have to live with the fact that maybe $5, $6, or $7 is the right level. And we also felt that we were not ready to say what the level was.

It is a fairly complicated question, you know, what source, what region, and so the way we phrased our legislation was that we would assess at any given period what our demand situation was, what our supply situation was, and what the oil prices are, and figure out where we thought we were becoming too vulnerable, and at that point the President would have the authority to put in either one of these mechanisms. And that is basically the way the State Department is proceeding in the international negotiations with other countries, is to agree in concept with this kind of approach.

Mr. REES. Good. I was worried that it would be the type of tariff that would put us permanently in a high cost energy position and we would not be competitive with other countries who were importing petroleum but not assessing the tariff.

Mr. PASTERNACK. That is not the intent, and the State Department is leading negotiations and is proceeding along the path of getting an international agreement. If the United States alone does it, well, that would be fine for our own energy purposes, but, certainly, in our trading situation it would not be very fair.

Mr. REES. There was some discussion on the OCS. We did a report—I think we sent it to your shop—on the development of the Outer Continental Shelf, and my impression was that we should not lease anything this year because the Interior really does not know where it is going and never has. It does not have a policy other than just leasing

tracts out. Nearly half of what they have is in shut-in capacity. Even if they did not lease anything out, they have got enough already under lease to probably keep the oil industry busy for another 5 years, plus the fact there are very severe shortages in drilling pipe, platforms.

In my own area, in California, we have, I think, 12 refineries in our harbor area, but they are all busy and all the storage is full, and we are using mostly low sulphur Indonesian. So that would not be a replacement of either Alaskan or the Outer Continental Shelf, and even if they do not go ahead with the leasing program, that 9 billion barrels I was talking about in the Santa Barbara Channel is already leased out. They are just waiting for the environmental impact study.

With a million and a half barrels coming down from Alaska there is going to be a huge shortage of petroleum on the west coast in about 2 years—I mean a surplus. And now what do we do with it?

Mr. PASTERNACK. That is a very real problem. All three of us here worked in varying capacities on the Project Independence study. The key thing we found was that in 2 to 3 years, or longer, if you had Santa Barbara Channel producing and you had the Alaska pipeline coming in and producing its 2 million barrels a day or so, and if you ever wanted to lease any more in Alaska, then if you did not have any infrastructure, you would get the oil away from the west coast. The west coast would be swimming in oil while the Midwest and the East were suffering.

That leads us to a couple of conclusions. First, that you have got to do something to get oil from Alaska or the west coast to the Midwest and to the gulf, or move it up from the gulf. Maybe a Canadian pipeline, or maybe a tanker route around either South America or Central America. By the way, that could be cheaper than a Canadian pipeline.

Second, the other problem, of course, is that there is a fair amount of oil, we think, on the east coast, in the Atlantic. There is a fair amount of oil, we think, in the Gulf of Alaska, but we do not know yet. We do not know because nobody has gone out there and drilled or explored or found any. And we think it is of pretty high importance for this country to find out what is out there and to be able to determine whether or not to count on it in the future. And that is why we would like to see that exploration and production starting out there.

Mr. REES. They do not need any more leasing, at least for another year, a year and a half, because they have enough out there that they have not even put down their strap wells. What about the possibility of keeping part of it as a strategic reserve? I talked to Interior. They say that you first put in a strap well just to see what you have, but once that is proven, they plug that. And then when they go in for production, they go in with a normal rig, and he said it only took about 30 days, once your rig was in place, to drill a field. That is the first hole.

Now, that is not very much time. So why could you not just have strategic reserves in a checkerboard area, whether it be in the East, whether it be in the West?

Mr. PASTERNACK. Where do you get the platforms?

Mr. REES. Well, I guess you would have to have some type of dedicated platforms for that purpose.

Mr. PASTERNACK. If I remember—and I do not remember the statistics on it—when you look at what it would take in terms of dedicated platforms and pipeline and tankers, and if you had the oil out in the mid-Atlantic someplace, and you had a shut-in well, and you produced it, you would then have to find a way to bring it to shore, and a place to bring it to shore. You certainly do not want to build a pipeline.

Mr. REES. If there was an oil crisis, it would probably mean there would be a surplus of tankers, and there would be a surplus of storage, and there would be a surplus of refining capacity.

Mr. PASTERNACK. There could be, but, I think, as you go through the numbers and the analyses as to the cost of those individual areas all up and down the coast, or wherever they are, that it turns out that the salt dome storage, which may cost a total, including maintenance, of $1 a barrel, and maybe one-third the cost of the shut-in capacity. I think that is where the economics work out.

Mr. REES. I think on the shut-in capacity they capitalize the price of the oil in the ground, and that becomes part of the cost. That is why the cost of shut-in always seems so very high.

Mr. HOGAN. I do not have the figures, but I have heard the same statement, and we do have some work that has been done on this. It says that the shut-in capacity, compared to salt domes, is a more expensive form of storage, but I think the reason is because of the flow rate problem. The typical pressure and flow rates that you can get out of shut-in capacity for an individual well are much lower than the type you can get out of salt domes, and you need more wells to get the same kind of response if you want 3 million barrels a day to come out, or a million barrels a day, or whatever it is, you can do that with a small grouping of wells in one salt dome where they have sufficient pressure and capability to withdraw it rapidly. Whereas with the shut-in capacity you need a large number of wells because of the geological structure. I think that is the motivation for saying it is cheaper to store it in the salt domes. Whereas I think the estimate is about 60 cents per barrel.

Mr. PASTERNACK. We would be glad, by the way, to supply whatever information we have got on that to you.

Mr. REES. Yes, we did get into this. Milt Russell did some work on it which was very interesting.

Mr. PASTERNACK. We do not pretend to know all the answers, and that is one reason why I think we need a little time to study it.

Mr. REES. On your natural gas pricing, I have done several studies using that 6-to-1 ratio in terms of a price of a barrel of oil related to how many MCF, and tried to check the intrastate cost. I figured probably the deregulated natural gas would be at least $1 an MCF.

Mr. PASTERNACK. On new natural gas which is not under contracts?

Mr. REES. Yes.

Mr. PASTERNACK. Yes, we think it would be at least $1 MCF. What is important is that most natural gas is under long term contracts, and while you would see an immediate increase in some of these spot prices and in new contracts, what you would not see is a very sharp increase on the average price of natural gas. It would go up rather slowly. We estimated if you deregulated natural gas this year, it would amount to a 6-cent increase in the price of natural gas.

Mr. REES. The latest prices I have seen have been about 48 cents an MCF on the Federal Power Commission.

Mr. PASTERNACK. Fifty-one cents.

Mr. REES. So you are going to double that price by deregulating. And then, on top of that, you are going to put a 38-cent-an-MCF tax. Is that not kind of a loophole?

Mr. PASTERNACK. Well, the new regulations would account for maybe 5 or 6 cents across all natural gas. It only hits the first whole fraction. The 37 cents, there is no question. That is a significant bite on natural gas, but the problem is that natural gas right now is in such short supply that we had a 14-percent curtailment this year. It was about 8 or 9 percent last year, and it is going to go up higher next year. This has caused us very significant problems.

We did not see this 37-cent excise tax as any way to increase supply. We saw it as a way to cut demand and to reduce the curtailments, and we estimate that that would indeed reduce the curtailment problem.

Mr. REES. Well, how much of that shortage is because of underproduction and anticipation of deregulation, and how much of it is because the field is actually being completed?

Mr. PASTERNACK. I do not think very much of it is because of production and the way we structured it and the Congress, in any legislation I have seen, has structured it. The natural gas regulation is to say that it would be retroactive so that there is no reason to hold back production.

Mr. REES. It would be retroactive to what?

Mr. PASTERNACK. Well, there have been various dates proposed in the various bills. Ours, I believe, has it retroactive to January 1 of this year, with some going back to 1973.

Mr. HOGAN. The other thing is that the industry typically tries to maintain a fairly constant production rate from known reserves, and that is a function of what their drilling patterns have been. In previous years the drilling patterns for natural gas have been declining steadily consistent with decline in production and the historical ratios of production to reserves. It now appears that the production is, in fact, declining consistent with that drop in reserves.

So I think the behavior that we are seeing now is not inconsistent with the patterns in the past, and it can be explained.

Mr. REES. What is the projected coal gasification rate? It is probably over $1.50 now, is it not?

Mr. PASTERNACK. Yes, easily. It is probably, if I recall, it is the equivalent of about $12 to $14 a barrel, and it could make it over $2 per MCF or $3 or $4 an MCF.

Mr. REES. Then your LNG would be what, $1.50 contract with Algeria?

Mr. BORRE. That is up in the air. First of all, in the negotiations for the LNG prices the Algerians have explicitly asked for a floor guarantee. Now, they are talking something in the range of $1.20 to $1.40 per million BTU, but two major issues that remain open are one, whether the negotiation will pass under FPC review, namely would the FPC, accept the price floor concept which the Algerians have asked for, roughly $1 per million Btu. And second, the Algerians have asked for a price escalation clause to be included with that approach,

but they have not defined that. So it is very hard to project out what the landed price would be.

Mr. REES. I was talking to the Iranians about their so-called basket of goods, and it just depends what you put in that basket.

What would you try to do about the upcoming oil glut on the Pacific coast? We have passed a coastal initiative measure in California. So it is going to be very difficult to develop more refineries. There are refineries, and nonpolluting refineries to begin with, because we have the toughest stationary source legislation on air pollution in the country. Still people are not emotionally in favor of refineries.

Mr. PASTERNACK. I think—by the way, the California laws are very interesting on the coastal zoning and protection and management.

Mr. REES. Well, it is a funny thing, the State Lands Commission just refused a request, I think, by SOCAL to build a pipeline from their Outer Continental Shelf well to their storage, which is on shore, and the State has jurisdiction over the 3 miles.

Mr. PASTERNACK. I think the obvious answer is that the glut, if it occurs, would come—it will come primarily from the Alaska pipeline. And all that says is that the oil coming from Valdez will probably have to go somewhere else. And it will probably have to go to either the Northwest and then be transported via some kind of pipeline to the East or to the Midwest, or it will have to go, as I said, in tankers, either through the central American route or around South America. Those things can all be done for about $1 or $2 a barrel. That may be the way you have to go.

Mr. REES. What about exports to Japan?

Mr. PASTERNACK. Was that not forbidden in the Trans-Alaska pipeline legislation? I think there was a specific clause in that that does not allow the U.S. Government or any company to export the oil.

Mr. BORRE. Except for a switching arrangement. If we were guaranteed equivalent volumes, then there would be a switching possibility, but we would not lose a drop of oil.

Mr. PASTERNACK. There was a time, I remember, a few years ago when we talked about shipping Trans-Alaskan pipeline oil to Japan, and they would give us their Middle Eastern oil.

Mr. REES. Yes; they are getting environmentally conscious too.

Mr. HOGAN. Also, it does not solve our vulnerability problem.

Mr. PASTERNACK. The Japanese have a very serious problem in that they are almost 99 percent dependent on foreign sources, and they have no alternatives.

Mr. REES. Yes; I was amazed that their economy, it was able to take the impact.

Well, thank you very much. I very much appreciate this briefing. We are going into a lot of different factors again, mostly on the international pricing adjustments and the balance-of-payments deficit.

But this is a great help, and if we can have any of the new projections in terms of domestic supply, I am very much interested in alternate sources and the time schedule for when they start hitting, like these flow charts that have been done by several groups.

Mr. PASTERNACK. We will be glad to supply those to you.

Mr. REES. The subcommittee will stand adjourned subject to the call of the Chair.

[In response to the request of Chairman Rees, the following information was submitted for the record by Mr. Pasternack:]

Hon. THOMAS M. REES,
Chairman, Subcommittee on International Trade, Investments and Monetary Policy, Committee on Banking, Currency and Housing, Washington, D.C.

DEAR MR. CHAIRMAN: I have enclosed responses to be submitted for the record as requested during my testimony of March 12, 1975. The three items include: (1) a comparison of our estimate of the President's program cost of $30 billion dollars as contrasted to those prepared by various elements of the Congress; (2) an analysis of potential savings due to auto efficiency standards; (3) our analysis of the difficulties of using allocations and import quotas for long-term reductions of energy demands.

With regard to the first item, I wish to call to your attention the detailed analysis of the cost comparisons. Although we continue to believe that our estimates are realistic projections of the total cost of the President's program, it is useful to recognize where the differences in the analyses remain. In particular, all the analyses are in agreement about the estimated cost of the oil components of the President's program.

This figure is roughly $25 billion dollars during the first full year of implementation. All disagreement on the estimated cost, therefore, rests in the natural gas and coal segments of the program. Thus, it follows that the higher cost figure should not be used as an argument for opposing the oil portions and rebate of the President's program. Rather, the difference in the estimates of cost should be used for careful examination of the natural gas and coal components of the program and the development of policies that are needed to deal with any changes that occur for these fuels.

I appreciated the opportunity to discuss the energy problem and the various alternatives available to cope with it. If I may be of further assistance, please call on me.

Sincerely,

BRUCE A. PASTERNACK,
Acting Deputy Assistant Administrator, Policy Integration and Evaluation.

Enclosures.

THE LOGIC OF EFFICIENCY STANDARDS AND THEIR INFLUENCE ON GASOLINE CONSUMPTION

This paper examines the fuel savings that can be obtained by changes in the average efficiency or miles per gallon of the stock of automobiles. Automobile gasoline consumption equals the total number of miles travelled by all vehicles on the road divided by the average efficiency of these vehicles. Therefore, any policy which increases the average efficiency of the stock of cars would decrease gasoline consumption. However, the same policy by increasing average miles per gallon lowers the cost per mile of driving which increases the total number of miles driven. For example, if some policy increased the average efficiency of the stock of cars by three miles per gallon without affecting the number of miles driven, the approximate fuel savings would be 860,000 barrels of gasoline a day. However, it is known that the total number of miles driven also increases so that the actual savings would only amount to approximately 830,000 barrels of gasoline per day.

Many policies are designed to increase the average efficiency of the stock of cars by mandating the efficiency standards for new cars. Even if these policies drastically affect the efficiency of new cars, they will be slow in affecting the efficiency of the stock of cars. Currently there are about 100 million cars on the road, approximately 10 percent of these cars are retired during any given year and about 10 million or 10 percent of the stock is replaced every year through new-car sales. Therefore, a policy which affects the efficiency of new cars would have a smaller effect on the efficiency of the stock of cars in the first year since the stock of used cars is large relative to the number of new cars sold (even though new cars are driven more than are old cars). However, as time progresses, efficiency standards have a greater impact since the stock will be replaced with newer, more efficient automobiles.

For purposes of illustration, we now examine the average efficiency of the stock of cars resulting from four different scenarios:

1. *Base Case*—No policy is implemented; the world price of oil is assumed to be $11/bbl. from 1975 to 1977 and $7/bbl. thereafter.

2. *President's Program*—A tariff and excise tax of $2/bbl. on imported and domestic oil and a linear increase in new-car efficiency to 20 mpg in 1980 and thereafter.

3. *Efficiency Standard I*—A linear increase in new-car efficiency to 24 mpg in 1980 and thereafter.

4. *Efficiency Standard II*—A linear increase in new-car efficiency to 28 mpg in 1980 and thereafter. This standard is far more severe than the maximum considered by the Department of Transportation and the Environmental Protection Agency in their Report to Congress, Potential for Motor Vehicle Fuel Economy Improvement.[1]

Table I shows that efficiency standards increase the efficiency of the stock of cars, but that this increase evolves over time as older, fuel-inefficient cars are replaced by newer, more efficient automobiles. Table II examines the fuel savings resulting from the policies in each of the four scenarios. It indicates that if they can be implemented, policies that increase the efficiency of new cars can lead to large gasoline savings, but that the impact of these policies is far greater in later years than in earlier years.

These efficiency standards cannot be obtained simply by technical improvements in all classes of cars but requires an alteration of the market mix of different weight cars. For example, while it would be very difficult to produce a 4,000 lb. car that could achieve 24 mpg, that car could be sold if a number of smaller cars achieving better than 24 mpg were also sold. In such a case, the sales-weighted efficiency of all cars sold could be 24 mpg.

To summarize, fuel savings from efficiency standards in the range of 0.9 MMBD can be achieved by 1985 if standards can, in fact, be implemented. A cost of this type of policy is the need to influence the market shares of large and small cars. However, the impacts are less than appear on the surface because people drive more when costs are less and because of the dominance of the old stock of automobiles.

TABLE 1.—AVERAGE EFFICIENCY OF THE STOCK OF CARS

[Miles per gallon of the stock]

Scenario	1977	1980	1985
Base case	14.14	14.83	15.37
President's program	14.72	16.44	18.45
Efficiency standard I	14.88	17.58	21.04
Efficiency standard II	15.27	18.77	23.54

TABLE II.—FUEL SAVINGS RESULTING FROM EFFICIENCY STANDARDS

[Reduction from base case in MMBD]

Scenario	1977	1980	1985
President's program	−0.3	−0.51	−0.91
Efficiency standard I	−.19	−.68	−1.4
Efficiency standard II	−.28	−.92	−1.8

Comparison of FEA Figures With Interior Committee Staff Analysis of the President's Energy Program

BACKGROUND

On Friday, January 17, an Interior Committee staff study prepared for Senator Henry M. Jackson was issued as a critique of President Ford's energy program. This critique estimated that the minimum direct cost to consumers of the President's program was over $43 billion and that producer profits would be at least $14 billion. The study's assumptions and analysis have been carefully reviewed and it appears that there is a substantial overestimate of the cost figures and that there are little or no increases in producer profits. This paper attempts to show where assumptions and conclusions differ from those of FEA analysis.

[1] Scenario "D" from that report assumes a 23-mpg efficiency of new cars in 1980 and a 26-mpg efficiency in 1985.

COMPARISON OF RESULTS

The staff study indicates that the tax revenues from the President's program will be $29 billion, substantially the same as the Administration estimate of approximately $30 billion. However, costs of the programs, as estimated by the Committee staff are $43 billion. Table 1 compares the total costs of the program as estimated by the Administration with the Interior Committee staff estimates. The portion of these additional costs that will be paid by the consumer is $19.2 billion. A detailed discussion of the underlying assumptions and support for these figures is presented below.

TABLE 1.—COMPARISON OF ALTERNATIVE COST ESTIMATES[1]

[In billions of dollars]

Action	Interior Committee staff study	FEA cost analysis
Oil:		
Petroleum import fee	4.8	3.9
Excise tax on domestic crude oil	6.4	7.22
Decontrol of old oil	12.6	13.01
Total	23.8	24.20
Natural gas:		
New interstate gas	4.5	1.09
Old interstate gas	3.8	4.38
Intrastate gas	8.9	2.33
Total	17.2	7.80
Coal: Price increase	2.3	0

[1] Calculations for both studies are contrasted in the section discussing the assumptions of the analyses.

The Treasury Department estimates that $5 billion of this cost increase applies to state and local governments. The FEA analysis of the macroeconomic effects indicates that approximately $7.8 billion will flow into capital goods investment or will be absorbed by reduced markups under forecasted market conditions. Therefore, the net first year costs at an annual rate are $19.2 billion for consumers.

Finally, the staff study's higher estimates of consumer costs were compounded when converted to average costs per household. The study assumes 53 million families of four when, in fact, there are about 70 million households in this country. Therefore, estimates per family are too high and ignore the important fact that the costs will vary substantially by income class and be as low as $85 per year for the lowest income group (0–$2,000 class). Table 2 illustrates this range of costs and contrasts these increased costs with estimates of expected tax relief.

TABLE 2.—ILLUSTRATIONS OF PERMANENT TAX RELIEF AND INCREASED ENERGY COSTS AT VARIOUS LEVELS OF HOUSEHOLD INCOME

Household income	Total increased energy costs	Permanent tax relief plus $80 special payments for adjusted gross incomes equal to household incomes shown	
		Single person	Family of 4 persons
$2,000	$85	−$80	−$160
$3,000	110	−120	−160
$5,000	150	−250	−178
$8,000	188	−297	−337
$10,000	228	−254	−349
$12,000	253	−190	−316
$15,000	296	−190	−221
$18,000	318	−190	−210
$25,000	393	−190	−192
$30,000	420	−148	−151

Source: Office of the Secretary of the Treasury, Office of Tax Analysis, Jan. 30, 1975.

DIFFERING ASSUMPTIONS

There are major differences in some of the assumptions used in each analysis. These are highlighted in this section along with the detailed cost calculations.

Oil

The mix between imported oil and domestic oil is different because FEA estimates assume that demand reductions and import savings occur. In addition, FEA's inclusion of Natural Gas Liquids is identified separately from aggregate crude oil. However, the total figures are quite similar.

The figures of the Committee Staff Study are repeated as:

	Consumer cost (billions per year)
1. Imported oil: Tariff: 6.5 MMBD×365×$2	$4. 8
2. Presently controlled oil:	
(*a*) Decontrol: 5.7 MMBD×365×$8.15	12. 6
(*b*) Excise Tax: 5.7 MMBD×365×$2	4. 2
3. Presently uncontrolled oil: Excise tax: 3.0 MMBD×365×$2	2. 2
Total oil	23. 8

The FEA Analysis is contrasted as:

	Consumer cost (billions per year)
1. Import fee: Uses estimate of 5.433 MMBD imports after implementation of President's program—$2×5.433 MMBD×365	$3. 966
2. Excixe tax on domestic oil:	
Production of 8.7 MMBD—$2×8.7 MMBD×365	6. 35
Equivalent tax of $1.43 per barrel of natural gas liquids (NGL) with 1.66 MMBD—$1.43×1.66 MMBD×365	. 866
3. Decontrol of old oil:	
Assumes 60 percent old oil exclusive of Elk Hills (0.1 MMBD annual average), hence 5.16 MMBD of old oil rising from controlled price of $5.25 to uncontrolled price of $11—$5.75 ×5.16 MMBD×365	10. 83
Assumes NGL price rises equivalent amount of crude oil. Crude increase $4.56 less $1.43 due to NGL tax—$3.13×1.66 MMBD ×365	1. 896
Adjustment of +$290,000,000 to account for rounding and refinery gain and to balance calculated increase of product prices of $4.10 and average consumption of 16.17 MMBD—($4.10×16.17 MMBD×365=$24,200,000,000)	. 29
	24. 198

Natural gas

The staff study assumes that there will be large windfall profits to natural gas producers (almost $10 billion). In fact, this argument overstates the natural gas impacts for the following reasons:

Approximately one trillion cubic feet of contracts for interstate gas would expire and be available for new contracts in 1975, even with decontrol. This is less than half of the staff study estimates. Without deregulation very little new gas is going to interstate sales.

The Committee staff estimates that intrastate natural gas prices will rise to $2.21 per MCF and that 60% of all intrastate gas contracts could be renegotiated to that price. This is inconsistent with current market conditions. Current spot prices for intrastate natural gas are about $1.50 per MCF, which is less than the BTU equivalent of oil at $11.40 (Interior staff figure) which would be $1.97. With a $.37 excise tax, the new intrastate price would be estimated at $1.87 or more, but not at $2.21. Present intrastate prices average about $.50 per MCF although new sales are at $1.50 per MCF. This indicates that only the equivalent of 20% of intrastate average prices reflect the current price of $1.50.

Deregulation would presumably bring up to .8 tcf of additional gas into the interstate market in 1975. If this occurs it would tend to replace an equivalent amount of imported oil which would have cost consumers as much or more as the new gas prices. The President's program would tend to shift this amount from oil imports to gas, but would only increase consumer costs by the amount of the excise tax.

The figures of the Committee Staff Study are:

	Consumer cost (billions per year)
1. New interstate gas: Decontrol: 2.3 tcf × ($2.21 − $0.45) × 1.11	$4. 5
2. Old interstate gas: Excise tax: 9.2 tcf × $0.37 × 1.11	3. 8
3. Intrastate gas: Price increase: 0.6 × 11.0 × ($2.21 − $1.00) × 1.11	8. 9
Total natural gas	17. 2

The FEA Analysis is contrasted as:

1. New interstate gas: Estimated at 0.91 tcf with equilibrium price of $1.11 compared to average of $0.28 on old gas. Excise tax of $0.37. $1.20 × .91 tcf	$1. 092
2. Old interstate gas: Interstate estimated as two-thirds of total gas consumption of 19.1 tcf. $0.37 × (19.1 × .66 − .91)	4. 376
3. Intrastate gas: Excise tax on one-third of total consumption. $0.37 × (19.1 × .33)	2. 332
Total natural gas	7. 800

Coal

The Interior Committee analysis assumes that half of the total coal produced will rise in price by an equivalent of $2 per barrel. We estimate that 80% of all coal is under long-term contracts, where prices tend to reflect long run coal production costs, which do not tend to rise in real terms. Further, our current estimate indicates that coal prices are limited by the inability of gas and oil consumers to convert to coal. As a result even the remaining 20% of coal sold in spot markets is likely to sell only at prices necessary to cover overtime pay and other costs of getting out the 1975 rate of production (about 35 MT more than 1974 because of production lost during the strike). Higher prices for oil would add very little to the amount of conversion to coal. Conversions to coal are estimated at 23 million tons in 1975 and 47 in 1976.

The figures of the Committee Staff Study are:

	Consumer cost (billions per year)
Price increase: 0.5 × 540 mmt × 4:27 × $2	$2. 3

The FEA Analysis is contrasted as:

FEA assumes no direct increase in coal due to the President's program	0

Comparison of FEA Figures With the Library of Congress Congressional Research Service Analysis of the President's Energy Program

BACKGROUND

On January 23, 1975, the Congressional Research Service (CRS) of the Library of Congress, issued a critique of President's Ford energy program. This critique estimated that the direct costs to consumers of the President's program were in the range of $40–$50 billion and that the inflationary impact would be a 2.7 to 3.3 percentage point increase in the inflation rate. This study's assumptions and analysis have been carefully reviewed, and it appears that there is a substantial overestimate of the cost figures and that the change in the Consumer Price Index (CPI) will be less than that stated in the CRS analysis. This paper documents where the Congressional Research Service's assumptions and conclusions differ from those of the FEA analysis.

COMPARISON OF RESULTS

Total cost

The Congressional Research Service estimates that the cost of the President's program could be as high as $50.3 billion in 1975. Table 1 presents the total cost of the program according to the Administration and to the Congressional Research Service. The portion of the total cost that will be paid by consumers is $19.2 billion. A detailed discussion of the underlying assumptions and support for these figures is presented below.

The Treasury Department estimates that $5 billion of this cost increase applies to state and local governments. The FEA analysis of the macroeconomic effects demonstrates that approximately $7.8 billion will flow into capital goods investments or will be absorbed by reduced markups under forecasted market conditions. Therefore, the net first year costs at an annual rate are $19.2 billion for consumers.

TABLE 1.—COMPARISON OF ALTERNATIVE COST ESTIMATES[1]

Action	Congressional research service study	FEA cost analysis
Oil:		
Petroleum fees and excise taxes	$12.6	$11.19
Decontrol of old oil	11.0	13.01
	23.6	24.20
Natural gas:		
Excise tax	8.36	7.1
Deregulation on new gas	5.40	.7
	13.76	7.8
Coal: Price increase	5.2	0
Changes in utility accounting:		
Inclusion of construction work in progress (CWIP) in rate base	6.8	----------
Inclusion of pollution control equipment in rate base	1.0	----------
Total	7.8	0

[1] Calculations for both studies are contrasted in the section discussing the assumptions of the analyses.

Impact on the Consumer Price Index

The Congressional Research Service study further states that given a cost of $50.3 billion in 1975 and given an anticipated 1975 GNP of $1,500 billion, the President's program could raise prices by 3 percentage points. A stage-of-processing model was used by FEA to forecast the effect that energy price changes have upon the Consumer Price Index and components of the CPI. The model requires two inputs: (1) forecasts of wholesale energy prices and (2) forecasts of the general wholesale and retail price indices prior to energy price changes. Price information is combined with historical information on the relationship between the stages-of-processing to forecast the effects that energy price changes will have on the prices of crude wholesale goods, intermediate wholesale goods, finished wholesale products, and finally, retail consumer goods and services.

Using this methodology, it is estimated that the CPI will increase 2 percentage points during the first full year of the program. Given the normal, unencumbered economy, the CPI would rise by approximately 2.5 percentage points during the first full year of the program in addition to the normally expected rise. These estimated increases tend to overestimate the affect of the program for two reasons:

(1) The energy price increases that were used as inputs to the model assume a full pass-through of the taxes and import fees. It is unlikely that this will occur because of the tax rebates to industry and because the economy is generally weak. Thus, excess supply would result if industry attempts to pass-through all of the costs.

TABLE 2.—ILLUSTRATIONS OF PERMANENT TAX RELIEF AND INCREASED ENERGY COSTS AT VARIOUS LEVELS OF HOUSEHOLD INCOME

Household income	Total increased energy costs	Permanent tax relief plus $80 special payments for adjusted gross incomes equal to household incomes shown	
		Single person	Family of 4 persons
$2,000	$85	$80	−$160
$3,000	110	−120	−160
$5,000	150	−250	−178
$8,000	188	−297	−337
$10,000	228	−254	−349
$12,000	253	−190	−316
$15,000	296	−190	−221
$18,000	318	−190	−210
$25,000	393	−190	−192
$30,000	420	−148	−151

Source: Office of the Secretary of the Treasury, Office of Tax Analysis, Jan. 30, 1975.

(2) The stage-of-processing model is based upon historical markup relationships and these may not hold because of the currently poor market demand conditions. That is, demand is currently at such a low level that companies may not be willing to pass on increased costs for fear of further reducing their markets.

Consumer cost impacts

The consumer costs that will actually be incurred by households has been estimated by the Administration to be $19.2 billion for the first year at an annual rate. Table 2 illustrates the range of costs by income class and contrasts these increased costs with estimates of expected tax relief. No total estimate of the impact on consumers is presented on the CRS study.

DIFFERING ASSUMPTIONS BETWEEN ADMINISTRATION ANALYSIS AND CRS STUDY

There are major differences in some of the assumptions used in each analysis. These are highlighted in this section along with the detail.

Oil

The mix between imported oil and domestic oil is different because our estimates assume that demand reductions and import savings occur. In addition, FEA's inclusion of Natural Gas Liquids is identified separately from aggregate crude oil. However, the total figures are quite similar.

The figures of the Congressional Research Service are repeated as:

	Cost (billions per year)
1. Excise tax: 17.3 MMBD×365×$2	$12.6
2. Presently controlled oil: Decontrol: 5.22 MMBD×365×$5.75	11.0
Total oil	23.6

The FEA analysis is contrasted as:

	Cost (billions per year)
1. Import fee: Uses estimate of 5.433 MMBD imports after implementation of President's program—$2×5.433 MMBD×365	$3.966
2. Excise tax on domestic oil:	
Production of 8.7 MMBD—$2×8.7 MMBD×365	6.35
Equivalent tax of $1.43 per barrel of natural gas liquids (NGL) with 1.66 MMBD—$1.43×1.66 MMBD×365	.866
3. Decontrol of old oil:	
Assumes 60 percent old oil exclusive of Elk Hills (0.1 MMBD annual average), hence 5.16 MMBD of old oil rising from controlled price of $5.25 to uncontrolled price of $11—$5.75 ×5.16 MMBD×365	10.83
Assumes NGL price rises equivalent amount of crude oil. Crude increase $4.56 less $1.43 due to NGL tax—$3.13×1.66 MMBD×365	1.896
Adjustment of plus $290,000,000 to account for rounding and refinery gain and to balance calculated increase of product prices of $4.10 and average consumption of 16.17 MMBD—($4.10×16.17 MMBD×365=$24,200,000,000)	.29
Total	24.198

Natural gas

The Congressional Research Service study assumes that 1975 natural gas production is 22.5 trillion cubic feet (tcf) and that the amount of new gas subject to deregulation in 1975 will be equivalent to a $5.4 billion initial cost for the first year. In fact, this argument overstates the natural gas impacts for the following reasons:

Approximately 1 trillion cubic feet of contracts for interstate gas would expire and be available for new contracts in 1975, even with decontrol. This is substantially less than that reflected by the CRS study in its $5.4 billion cost for the first year. Without deregulation, very little new gas is going to interstate sales.

The excise tax will be levied on net marketed production and not on total gas production. Hence, only 19.1 tcf will be affected by the excise tax of 37¢. This will result in a much lower total cost attributed to the excise tax.

Deregulation could presumably bring up to .8 tcf of additional gas into the interstate market in 1975. If this occurs, it would tend to replace an equivalent amount of imported oil which would have cost as much, or more, as the new gas prices. The President's program would tend to shift this amount from imports to gas, but would only increase consumer costs by the amount of the excise tax.

The figures of the Congressional Research Service are:

	Cost (billions per year)
1. Excise tax: 22.5 tcf × 0.37	$8.3
2. Deregulation of new gas	5.4
Total	13.7

The FEA analysis is contrasted as:

1. New interstate gas: Estimate at 0.91 tcf with equilibrium price of $1.1 compared to average of $0.28 on old gas. Excise tax of $0.37—$1.20 × 0.91 tcf	$1.092
2. Old interstate gas: Interstate estimated as two-thirds of total gas consumption of 19.1 tcf—$0.37 (19.1 × 0.667 − 0.91)	4.376
3. Intrastate gas: Excise tax on one-third of total consumption—$0.37 × 19.1 × 0.33)	2.322
Total natural gas	7.800

Coal

The Congressional Research Service analysis assumes that coal produced in 1975 will rise in price by an equivalent of $2 per barrel or approximately $8/ton. We estimate that 80 percent of all coal is under long-term contracts, where prices tend to reflect long-run coal production costs, which do not tend to rise in real terms. Further, our current estimate indicates that coal prices are limited by the inability of gas and oil consumers to convert to coal. As a result even the remaining 20 percent of coal sold in spot markets is likely to sell only at prices necessary to cover overtime pay and other costs of getting out the 1975 rate of production (about 35 mmt more than 1974 because of production lost during the strike). Higher prices for oil would add very little to the amount of conversion to coal. Conversions to coal are estimated at 23 million tons in 1975 and 47 in 1976.

The figures of the Congressional Research Service study are:

	Cost (billions per year)
Price increase: $8 × 650 mmt	$5.2

The FEA analysis is contrasted as:

FEA assumes no direct increases in coal due to the President's program (see discussion of assumptions)	0

Changes in utility accounting

The above costs of the President's program as estimated by FEA consisted of the cost of imposing taxes and fees on petroleum and natural gas and the cost of decontrolling the price of old oil. The costs associated with changes in utility accounting procedures were not included for several reasons:

(1) The need for additional funds to finance electric utility expansion will require some form of rate change. This need for a rate change is independent of the President's energy program. Hence, the costs of any proposals, such as changes in the accounting procedures, should not be included in the costs of a program designed to achieve energy independence.

(2) The changes in accounting procedures presented by CRS allow for the addition of one billion dollars worth of pollution control equipment in addition to the expansion of plant and equipment. This clearly is not part of the cost of achieving energy independence and may not even be the appropriate amount of pollution control from a cost-effectiveness sttndpoint.

(3) The accounting changes are part of the long-term energy program and will have no effect on short-run energy supplies.

In addition to inappropriately including the utility accounting changes, the CRS has incorrectly estimated the impact of these changes. The Congressional

Research Service estimates that the additional 1975 costs will be $6.8 billion by including construction work in progress in the rate base. This is based on an FPC/Office of Economic study, *An Analysis of the Electric Utility Industry's Financial Requirements, 1975–79.* This cost is incorrect in that the costs of including construction work in progress in the rate base as estimated using the FPC study are $3.4 billion.

[Whereupon, at 3:50 p.m., the subcommittee adjourned to reconvene at the call of the Chair.]