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STATEMENT OF THE VICE PRESIDENT
BEFORE THE SENATE COMMITTEE ON BANKING, HOUSING
AND URBAN AFFAIRS ON S 2532
A BILL TO CREATE THE ENERGY INDEPENDENCE AUTHORITY
WASHINGTON, D. C.

(AT 9:45 A.M. EST)

THE VICE PRESIDENT: Mr. Chairman, distinguished gentlemen, I am very grateful for this opportunity to be here with your committee.

I think perhaps I would do better going through the prepared text first and then come to some of those very provocative statements or questions which you just asked. So perhaps I will just go through this to give us a back-drop and then make a few comments on the questions before Mr. Zarb gives his testimony.

But I am very grateful for this opportunity to discuss with you and members of the committee the most challenging problem of a challenging era -- the energy crisis.

First, I would like to ask, and then answer, the following questions: (1) Is there really an energy crisis? (2) What happens if we just continue as is, to depend on increasing foreign imports to meet our Nation's growing energy needs? (3) Do we, as a Nation, have the resources and capacity to achieve energy independence? (4) What does it take to do it? (5) Why does government have to get into it? Why isn't private enterprise doing it? (6) How can government play an appropriate role in achieving energy independence without subsidizing private interests, or without interfering with the free enterprise system? (7) If the answer to getting us off dead center is an Energy Independence Authority, as provided for in Senate Bill 2532, how would it work? (8) With an all-out national effort, how fast can we expect to achieve the goal of energy independence?

Now going to the questions. Is there really an energy crisis?

Unfortunately, many Americans do not believe the energy crisis is real because there is no tangible evidence of it. There is gas in the pumps, and the lights go on when they flip the switch.

They recognized it two-and-a-half years ago during the Arab oil embargo when the lines formed at the service stations. But there are no lines now because we are importing 40 percent of the oil consumed in this Nation.

In 1960, we received 18 percent of our oil from

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foreign sources. During two weeks last month, our foreign oil imports reached more than 50 percent of our total consumption. Even more alarming is the fact that the proportion of our imports which comes from unstable Mideast sources is rising faster than the growth rate of our imports as a whole.

While imports rise, domestic production of both oil and natural gas is declining. The Northeastern part of this country is now dependent upon foreign sources for 75 percent of its oil.

If this supply were suddenly cut off, there would be social and economic chaos. Should we have another embargo, the economy of this country would be shattered. Today's energy situation is, in my judgment, a clear definition of a crisis.

II. What happens if we just continue as is, to depend on increasing foreign imports to meet our Nation's needs?

Between now and 1985, our energy needs will grow by 36 percent. If we continue our current course, and continue to regulate oil and natural gas prices at current levels, if we do not develop our current reserves, if we fail to increase the generating capacity of nuclear power plants, if we do not adopt a strong program of conservation, and if we fail to commercialize new sources of energy, such as gas and oil from coal and shale, we will be importing between 50 and 60 percent of our oil by 1985. And it will cost us in foreign exchange not \$30 billion, as it does this year, but \$50 billion or more by 1985.

It is obvious what a threat of an embargo would do to our national security and defense capabilities under such circumstances as well as to our capacity to meet our responsibilities to the other nations of the free world who, without our protection, would be equally vulnerable.

I am hesitant even to speculate on the kinds of economic, political and military pressures that could be imposed on this Nation if we continued to be more than 50 percent reliant on foreign sources.

With such a large amount of the oil coming from one area of the world, the supply lines provide a tempting opportunity for the Soviet Union, with its growing sea power, to disrupt the transport on the high seas.

But there are other serious consequences that could result. The continued dependence upon foreign sources of oil could cause us to lose credibility with our allies. They would be justified in asking whether or not we would support their interests against those of our oil suppliers. Our continuing dependence on imported oil threatens our ability to maintain our leadership in the free world, our economic well-being, and our national security.

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Now let's look at what happens to our economy, if we continue along our present path of depending on increasing foreign imports to meet our Nation's growing energy needs.

In 1973, we were spending \$4.3 billion annually for foreign oil. And in 1976 we will spend \$30 billion. We now export \$22 billion in agricultural products, which is up from \$8 billion in 1973. Were it not for the sale of these farm products and the sale of \$10 billion worth of arms, we would not have maintained our balance of payments position.

On the other hand, if we just continue on the present course, we will be spending, as I said before, up to \$50 billion overseas for imported oil to meet the growth in our domestic needs. If we were to spend the \$30 billion at home, it would provide jobs for at least 1,200,000 people. By 1985, \$50 billion spent at home to produce our energy requirements domestically would produce close to 2,000,000 jobs for American workers.

If we don't follow this course, at some point, the economics of business will compel industrial concerns to locate their facilities in closer proximity to energy sources abroad rather than to their markets and customers at home. This would mean an additional loss of jobs in this country and would be detrimental to the vitality of the entire American economy.

As energy costs rise due to the arbitrary action of the OPEC cartel, over which we have no control, inflationary pressures are placed on our economy. When this occurs, there is a tendency for government to enact policies which inhibit economic growth. To continue along our present path spells economic, social and political chaos.

III. Do we as a Nation have the resources and capacity to achieve energy independence?

The answer is yes. We are extremely fortunate as a Nation to have vast reserves of resources that can be converted into energy. The North Slope of Alaska will make available significant amounts of oil and natural gas. And we have known reserves of coal that will last us for at least 100 years.

It is estimated that our shale oil reserves are equivalent to four to five times the total amount of known oil reserves in the Middle East. The potential resources on the outer continental shelf are expected to be substantial.

We have the technology and ability to more than triple the generation of nuclear power with appropriate safeguards by 1985. We have, in this country, potential energy from geothermal, solar and other sources. All of these can replace our dwindling present domestic supply of natural gas and oil, in a way that protects our environment.

IV. What does it take to do it? To achieve energy

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self-sufficiency, we must, in the short-term, face up to the issues that confront this Congress and the American people. We must enact and employ conservation measures. We must deregulate the prices of domestic oil and gas. We must assure that we do not unduly impede the development of nuclear power. And we must assure that our environment is protected, but that the policies we adopt in doing so do not deter the development of our resources, such as coal, oil shale, and off-shore oil reserves. There is no problem in achieving both goals if we all work together. Modern science and technology can assure the achievement of both goals together.

According to Federal Energy Administration estimates, if we take all the necessary actions in the next 10 years, we can reduce our energy needs by 5 percent through conservation, increase domestic oil production by 50 percent, increase coal production by 100 percent, increase natural gas production by 10 percent and increase nuclear power generation by 300 percent.

This will require, among other things, deregulation of oil and gas -- strong conservation measures -- and \$600 billion to \$800 billion in private sector investment in domestic energy production.

I may parenthetically state the \$100 billion you referred to as such a large figure is only a fraction of the total amount that is needed. I just mention that for further reference later. In our comments today we have gotten it on a rather large scale.

We must restore existing and construct new transportation systems where necessary. In the longer term, we must commercialize known technology for the gasification and liquefaction of coal.

And, as new technologies become known for the development of such energy sources as solar, geothermal and urban wastes, they can be applied commercially. Energy independence can be achieved from the application of all of these approaches before the end of the century if we have an all-out national commitment.

V. Why does government have to get into it? Why isn't private enterprise doing it?

Energy independence is a national objective that is essential to the economic and strategic well-being of this Nation. Private enterprise alone cannot and will not do it.

There is ample precedent for positive government action to encourage the American enterprise system in achieving national objectives that contribute to economic growth, the well-being of our people, and our national security.

We have a transcontinental railroad system because the government provided the land. We have a

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uniquely productive free enterprise agricultural system because of assistance by the government through the Homestead Act, Land Grant Colleges, the Extension Service, and the Federal Agricultural Credit System.

Our civilian aviation industry evolved from the research and development of military aircraft. Because of the billions of dollars spent on our highway system by all levels of government, we have a prosperous automotive industry which is basic to our economy. All of these are examples of the partnership between government and industry to achieve an essential national goal which was not attainable by either acting alone.

In the case of energy, we have the raw materials to achieve self-sufficiency. However, the normal functioning of our economy will not, because of the uncertainty of the risks involved, produce the capital investment required to fully develop these resources within a reasonable period of time.

Private capital sources are -- for good reason -- reluctant to make capital available for domestic energy production projects because of the uncertainty of government regulation, cost and prices.

For example, the development of a single coal gasification plant would require a capital investment of up to \$1 billion and take approximately 6 to 10 years to construct. Because of the uncertainties of the technology, and price, and the long lead times, such a project has more than just the ordinary risk.

Many projects, such as floating nuclear power plants, railroad reconstruction, or large pipelines, are of such size and scope that financing from the private sector alone would not be adequate. Ninety-two nuclear power plants have been cancelled or postponed, in large part because the electrical utilities have not been able to raise the financing necessary to construct them. They now take 10 or more years to build, cost approximately \$1 billion, and the state regulatory bodies will not give a rate increase to finance them until the power from the new plant comes on line. Thus, their inability to get private financing.

This is not to suggest that these projects are destined to lose money. It only points out the uncertainties that deter private sector investment. We are not in a position to wait until these uncertainties become certainties. The longer we wait, the further into the future we push the day when these projects will add to our domestic energy production.

VI. How can government play an appropriate role without subsidizing private interest, or without interfering with the free enterprise system?

Government has traditionally played a role of providing incentives in one form or another to assure that

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adequate capital is available to the private sector in achieving national objectives.

In this case, the government's role would be to provide up to a total of \$100 billion of risk capital for energy projects essential to energy independence which cannot get the necessary amount of private financing.

The government loans would be on terms comparable to those offered by the private sector. In financing the development of energy resources, the government program should function like an investment bank or other private sector financing agency -- providing assistance to promising projects, but on a self-liquidating basis.

This would provide an appropriate government/private sector partnership which would work together to get this country off dead center in achieving energy independence without a giveaway or subsidy.

The legislation stipulates that the private sector would own and operate productive facilities, and not the government. The American enterprise system has shown itself to be the most efficient and capable producer in the world. By providing financial assistance to take those risks which are beyond the capacity of the private sector, the government would act as a catalyst in getting the energy independence program into motion.

But after costs were determined and market prices established, then the competitive nature of our system would provide the incentives necessary for the successful achievement of our energy independence goals.

VII. If the answer to getting us off dead center is an Energy Independence Authority, as provided for in Senate Bill 2532, how would it work?

The Energy Independence Authority would have authority to provide up to \$100 billion of financial assistance for energy projects which could not otherwise secure financing from private sector sources. It would be \$25 billion in equity and \$75 billion in borrowing power. This sum would be raised through the sale of the Treasury of up to \$25 billion in equity securities and the issuance of up to \$75 billion in government-guaranteed obligations.

The Authority could provide financial assistance in a variety of ways, including loans, loan or price guarantees, purchase of equity securities, or construction of facilities for lease-purchase.

The Authority would not be permitted to own and operate facilities, or to provide financing at interest rates which are below those which prevail in the private sector.

The Authority would be authorized to support emerging technologies in energy supply, transportation or transmission, and conservation, projects which displace oil or natural gas

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as fuels for electric power generation, projects which involve technologies essential to the production or use of nuclear power and projects of unusual size or scope, or which involve innovative regulatory or institutional arrangements.

It is also authorized to finance capital investments necessary for environmental protection. The Energy Independence Authority would be run by a board of five directors appointed by the President and confirmed by the Senate.

VIII. With an all-out national effort, how fast can we expect to achieve the goal of energy independence?

Based on the establishment of the Energy Independence Authority to assist in financing the short-term actions required to limit our vulnerability by 1985, as well as the new domestic energy sources we will need after 1985, we can achieve energy independence before the end of this century.

But time is of the essence. We cannot wait another year if we are going to protect our national security and rebuild our economic strength to meet the needs of our people at home and our responsibilities abroad.

The time to act in my opinion is now. Mr. Chairman, may I comment briefly on a few of the things that I note that you said?

SENATOR PROXMIRE: Yes, sir.

THE VICE PRESIDENT: You pointed out that the private market was a pretty good judge of what was sound, and that if it is sound, the private market would do it.

The problem we face here is we are in a situation where the OPEC countries have acted on a political basis, not on a free market basis, to raise the price of oil in the world market.

At home the President has declared that our national policy is that we shall be independent as far as production of energy is concerned.

Both of these statements, first the action by the OPEC countries, and the statement by the President, cut across a free world market. The energy companies, I think many of them are hopeful that the OPEC cartel will break up and they can get back to buying cheap oil. If that is the case, then why bother to spend money for higher cost production here at home. That is a deterrent.

The risks are very great because we have price control on natural gas and price control on oil. Therefore, it is hard to judge if you produce from new sources whether your costs are going to relate favorably to the control prices. Therefore, we don't have a free market on prices.

These are understandable because we have been through

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a period of rapidly rising costs, and the Congress has taken action to hold down prices. However, this does adversely affect the free market.

But it does not support our national security or national well-being. Therefore, this is destroyed as a means whereby during this interim period, an evolutionary period, as we adjust to higher world prices, it provides a means whereby the government can take those steps or assure the taking of those steps which are in the national interest.

And as and when the action is taken, the properties would be sold; and if there is a profit, the government would realize a profit and not only get back its initial investment but you would get back the additional money which would derive from the profit.

If it was unsuccessful, and there are many ventures in this whole area -- for instance, the production of oil from shale; this is still an unknown field on a commercial scale. A commercial operation would cost in the neighborhood of \$200 million.

Yet we have the reserves, four or five times the known reserves in the Arab world. To develop that, to find out what the costs would be, is very much in our national interest.

No private company is willing to do it because they don't know whether they would lose the \$200 million. And therefore they would rather put it somewhere else.

This is the kind of thing which the government can contract, just the way we did under the RFC under the Rubber Reserve Corporation when Jesse Jones set it up. They contracted with I think six private companies to develop synthetic rubber. Four or five of the six were successful. The whole thing was sold, and we developed, as a result, a new industry in the United States.

This has been the history of this country. And as far as the size is concerned, which was the second point you raised, \$100 billion in relation to \$600 billion to \$800 billion to achieve energy independence, in my opinion, is in relation to the costs today.

It is estimated that in the next 10 years we will need \$4 trillion of new capital investment to meet the demand for growth. This is not a large amount. It is large in terms of the past, but not large in terms of where we are today or the future.

So that from the point of view of size, the costs are astronomical in terms of our traditional way of thinking. But I think it is a time for bold action in this country if we want to preserve our leadership, both in terms of economic growth at home and in terms of our responsibilities in the world.

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So to me this is not one quarter of our annual budget that it is now Federal spending. As to whether it is a blank check, of course, the definition of a blank check I guess would be questioned as to Congress' control over the individual expenditures.

In our system of shared responsibilities, as I understand it, the Congress sets the policies, creates the framework of laws, within which then the Executive Branch and private enterprise operate. So any well-organized banking institution would be structured, and this would be equivalent to an investment bank.

We had an example with Jesse Jones and the RFC which was designed for a slightly different purpose, but the same concept. It depends on whether it is well run. Obviously they are not going to make any irresponsible investments if they are properly run.

A board of five, appointed by the President, approved by the Congress, has got to be of men and women of outstanding ability and character. They would be audited, so there is no question on that.

I just think to say that it is a blank check implies that there is no control or that there would be no judgment or wisdom exercised in the making of loans. The objective said the loan shall only be made -- and the legislation -- for those projects that contributed to energy independence which cannot receive private capital, and there is plenty of competitive interest in providing private capital between existing investment houses if the risks warrant the investment.

Under the laws, as you know, you cannot make an investment if the risks are beyond what seems reasonable. So there are limitations which are very short. But national interest dictates in my opinion that certain risks be taken which may contribute in a major way to the independence of this country in energy.

We have in the past. It is just a question of finding out what the costs are in various forms of energy production, domestically. And I don't think we can over-stress the importance of investing this \$50 billion now and \$50 to \$60 billion later in the United States employment as distinct from shipping this money abroad.

Now, not only are we importing energy, but we are now negotiating on a far more extensive basis to liquefy gas in Algeria and now in the Soviet Union, which will make us further dependent when, by action at home, we can produce that action here.

We can gasify coal here and liquefy the gas, so we can do exactly the same thing at home. And Frank Zarb can tell you about the relative costs.

I think it would be cheaper to do it at home. But we don't have the laws which encourage it. Whereas, by doing

it abroad you avoid the loss at home and, therefore, you can import. You don't get involved in interstate pipeline regulations.

So I appreciate tremendously the opportunity to be here, and I would be delighted to answer any questions.

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SENATOR PROXMIRE: I want to thank both of you for your statements. You certainly both deserve great credit for proposing to do something about the energy crisis. I think that is enormously important. As Mr. Zarb has just said, what you propose may or may not be the right option. It does take us in the right direction.

The difficulty is that I have trouble, Mr. Vice President, with many of your assumptions as we go along. For example, when you responded to my earlier points, you said that the \$100 billion, while an enormous amount, is really not as big as it might seem in proportion to the \$600 to \$800 billion of investment we can expect the energy industry to make in the next 10 years.

THE VICE PRESIDENT: It is required to make.

SENATOR PROXMIRE: But I think we are not comparing fairly. I don't think it is fair to compare what you are proposing here with the total investment of the energy industry. That would include every gas pump, every gas tank, every utility that is built; it would include every coal boiler that is constructed, every tanker; it would include a huge number of investments that in this colossal energy industry of ours are going to be made, whether or not we proceed with this.

It seems to me that the pertinent point is the amount that is being invested now in development of new technology.

Now if you can establish the fact, not that that investment now is inadequate, but that it will very likely continue to be inadequate if controls are taken off -- and you both agree that is necessary, and I would agree to that -- it seems to me you would have a much stronger case.

But it seems to me the comparison must be with what is being done now. I have gone through Mr. Zarb's documentation. I don't see anything there that would indicate how much now is being expended in this area that we would supplement, and how much is likely to be expended if we take off controls, and how much more we need to achieve the goal of having imports reduced to 30 percent by 1985.

THE VICE PRESIDENT: I would like to comment first, Mr. Chairman. This does not include the expenditures by the energy industry overseas for their world markets. This is an

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estimate which is based on the steps that are necessary to become self-sufficient. In other words, developments in Algeria or any other part of the world you want to pick would not be included in this because they don't contribute to our independence.

SENATOR PROXMIRE: I understand that. I tried not to imply that.

THE VICE PRESIDENT: Good. So that at the present time, I mentioned that 92 atomic power plants have been postponed or cancelled. This is an essential part of this because the one area that can be expanded rapidly is the atomic power area. They, in our calculation, should grow from 9 percent of present production of energy to 26 percent by 1985, which is over a 300 percent increase, because we will have growth at the same time, so it is almost 400 percent.

At the present time, there is virtually paralysis in the field because of the complexity of getting the clearances, the time required. As a matter of fact, you can't get your costs into the rate base until you are on stream. So you have a \$1 billion plant and you can't get the financing.

Here is a field where the government, if it had the money, on an investment bank basis, could finance the construction of an atomic power plant on a lease-purchase basis, which is a traditional system that is used in this country to finance airplanes and other things where individuals who have nothing to do with the airline finance the construction of the equipment, and then it is leased when completed on a purchase basis by the company that uses it.

We could do exactly the same with a utility company for a nuclear power plant. They would start to pay when the energy was on stream and when the rate base was adjusted to take into account the costs. And the government would get its money back and the country would get the power.

Unless something of this kind is done, I don't see how it is going to be constructed. These cost a billion dollars apiece, an efficient-sized operation. If you just take that one case, it is hard to see how else we are going to accomplish this.

The industry says that if you would remove all regulations and let the increases go up now, they could finance it. Well, that could well be true. But I don't think there is any chance that that is going to happen.

Therefore, what does the Nation do? This is my point. How do we protect ourselves as a Nation or our national interests when local regulatory bodies are under pressure? Because I know in my own State costs are up close to 90 percent because, first, we went to non-sulfur fuels. That costs about \$800 million for consumers, just Con-Ed alone, in New York and Westchester. Then came the imported fuels with the price increase. The consumer will not support any increase in prices at the present time.

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SENATOR PROXMIRE: Let me follow up by asking this: The basic question is why does the domestic energy industry need Federal assistance? Their asset structure is strong. The demand is strong. The profits are reasonably good. They were too low for a while and perhaps then too high. Now they have leveled off at about the average.

The private market has financed large new commercial energy projects in the past -- like the Alaska pipeline -- with private capital. If we get off price limitations on oil and gas, which both you gentlemen agree must be done, it is hard for me to understand why the industry itself can't finance this.

Now it is my understanding, we have tried hard to get testimony from the people in the industry. They tell us they don't like this bill, but they won't come in and tell us why; which they would, but they are a little afraid of you. I don't know why they are afraid of you. You are a nice fellow. I don't know anybody you hurt. They don't want to offend you somehow.

At any rate, it seems to me we should have some kind of record from the industry itself telling us what they could do if wage price controls were taken off and if the industry were free of that kind of limitation in the price they can get.

It seems to me we ought to have some documentation here from the industry, in view of the fact the industry, as you say, has progressed enormously over the past 100 years or so.

THE VICE PRESIDENT: As far as the oil industry is concerned, they really don't need much help, except price and the ability to get leases for drilling. Those are complicated because of ecology and off-shore and other restrictions.

They also own coal and, of course, this whole question -- coal is under wraps at the present time. So that probably they would go ahead if the restrictions were taken off.

But that is a small percentage. As Frank pointed out, we have about 8 million barrels a day now. We have to get to 12. That 12 would be mostly new because the 8 million by 1985 would have been 85 to 95 percent.

But oil isn't the answer to this. That is the problem. Oil is not our long-term answer. We have got to find substitutes. Coal is one. Shale oil is another.

Let's take shale oil. There are two ways of getting it. One is you mine the shale, cook it, get the oil out by heat, and then you end up with the shale which is fractionated and comes out like what I describe as talcum powder. There is very little water in Colorado where this shale oil is found.

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Therefore, what do you do with the powder? You can fill a valley with powder, but if the wind blows, it will blow all over the place and the ecologists and everybody will object.

SENATOR PROXMIRE: In the oil shale, we have got some work being done there now, as you say.

THE VICE PRESIDENT: We have got leases taken. We have research being done.

SENATOR PROXMIRE: Can we get from them some kind of documentation as to what they feel they would need?

THE VICE PRESIDENT: The risks are too great. They spent \$1,800,000,000 in buying leases from the Department of Interior, and nobody has put a shovel in because the cost is too uncertain, the method is too uncertain.

And therefore, just to continue with this illustration, my feeling is that if the government wants to find out what we could do in developing that shale oil, which may be six times as great or five times as great as all the Arab countries have put together, which is unbelievable if we had that -- there are those who believe, and Frank doesn't agree with me and the oil companies don't believe it, but the Livermore Laboratories do, if you do the in situ process, which is you drill down into the shale, set off an explosion, fractionate the structure, set it on fire, have a pipe, and the oil will gasify, burning underground, which is the same process on the surface, draw off the gas, condense it on the surface, and you have oil.

The question mark here is what does it cost? Livermore Laboratories thinks it will cost \$7 to \$8 a barrel. The industry thinks that it will cost twenty-some dollars a barrel.

They have done laboratory tests. Until they have done it on a commercial scale, nobody is going to know. It would cost about \$200 million to do a commercial operation. In my opinion, the government should contract, find out, sell the process if it is successful, for a profit, and then we have got a totally new industry.

To do it on the surface, I just don't think it is going to work because I logically speculate it will never be done.

SENATOR PROXMIRE: The question is how fast, how much, and whether or not this colossal jump in investment by the Federal Government is justified.

For example, the Federal Government already has a very extensive energy program. ERDA research and development programs were funded in '76 at \$2.59 billion. It is going up to \$3.38 billion in the next fiscal year, a 30 percent increase, and the President has requested that.

In addition, Congress is now considering an

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Administration proposal for a \$2 billion loan program for synthetic fuels demonstration projects.

If you project that kind of an increase over the next 10 years, you might get a \$25, \$30, \$40, \$50 billion research and development demonstration program.

To move ahead in this particular way you are suggesting is appealing, but it seems to me that it is not as responsible as Congress ought to be. We ought to know where we are going with every billion or every two or three billion dollars rather than provide a hundred billion and say, "Take it away. If there are losses, then we will make appropriations."

But I don't see how we responsibly, under our Constitution, with our clear responsibility for appropriations, can provide that we will create an authority that can spend \$100 billion and not even put it in the budget so they can compete on a priority basis.

THE VICE PRESIDENT: Senator, if we had known where we were going as a Nation, we never would be here to begin with. They wouldn't have come over on the Mayflower or down to Jamestown. Secondly, they never would have gone West.

We are looking for a risk-free society. I think it is a pipe dream. We have to take risks, gamble.

SENATOR PROXMIRE: I want to take the risks, but with the eyes open. The Mayflower argument was one we heard with the SST, too.

THE VICE PRESIDENT: I don't think this is the SST. This is good. You have portrayed a picture that is 10 years with \$50 million in research and we are no further than we are now.

In the meantime, we have a situation in the Middle East right now that could blow up tomorrow. We could be back in another war. We could be back in another oil boycott.

The East Coast is now dependent 75 percent on energy from abroad. In two years we will be importing 25 percent of our energy from Arab countries because it is low-sulfur oil. There is 25 percent we will have from Arab countries in two years. That is low-sulfur fuel.

If that is cut off, we are going to have absolute economic and social chaos on the East Coast, because you can't transport oil from other parts of the country. I think we are going to see ourselves, if that happened, in a total breakdown.

Now, if it doesn't happen by a cutoff, by a boycott, at some point the Soviet Navy is going to be able to do this. If they don't do it, they can blackmail us.

I just don't think we have any concept of the dangerous position we are getting in. I think it can be the

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future of our survival as a society; and, therefore, to take \$200 million and do a test on a commercial basis because ERDA cannot do it on a commercial basis -- until you do it on a commercial basis, you can't tell what the costs are. Unless you know the costs, you can't get private capital to go into it. They cannot afford to. The government can.

We are spending \$100 billion this year on defense. This is the most important defense. If our economy is destroyed, we haven't got any defense anyhow.

SENATOR PROXMIRE: My time is up. Senator Packwood.

SENATOR PACKWOOD: Mr. Vice President, I agree very strongly with your last statement. It is a very fragile reed for this country to rest its economics on the military security on things over which we have no control.

For a Congress which has done nothing so far, if Congress doesn't like this program, fine; come up with another program. Congress so far has done nothing. They have failed, since I have been in here, in the field of energy. We have rejected all the Administration programs, by and large. In fact, we haven't had something of consequence. The energy bill last year was worse than no bill. That is a consequence.

There are two things that worry me in your proposal. Everybody agrees that the consumers don't want to pay more money. By and large, at the state regulatory level, the utility -- principally electricity, but others in addition -- are not being allowed to charge the prices they need to generate capital.

What happens if we pass this bill, the loans are available, the production facilities are built, and then the state regulators say, "Heavens, here is this \$100 billion collateral. We can continue to enrich the company, constrict rivalry." How do they become further ahead if they become a trade-off?

THE VICE PRESIDENT: I think in order to enter into a contract with a private utility company to build on a lease-purchase basis the power plant, they would also have to have a contract with the local utility company that as and when that came on line, they would raise the rates, whatever was necessary, to be able to finance the plant. So you would have to get both contracts.

SENATOR PACKWOOD: So in essence there is more to this bill than meets the eye. How are we going to budget that out of the local Public Service Commission?

THE VICE PRESIDENT: The local Public Service Commission understands the importance of having power. Their problem is politically right now they can't do it. They can do it 11 years ahead. It is a lot easier to do it 11 years ahead.

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SENATOR PACKWOOD: You mean if the present Public Service Commission in New York and New Jersey committed this 11 years ahead to a plant that is going to come on, and a different Public Service Commissioner is there at the time, they make a irrevocable commitment that cannot be deterred from?

THE VICE PRESIDENT: Frank can answer the details on that, but the concept has to be done.

SENATOR PACKWOOD: I was just reading the Bankers' Trust 1976 Surveys. This is their concluding paragraph. They have taken three cases: Case one just assumes present continued import. Case two is no imports by 1985. Case three, no imports by 1990.

This is the last paragraph: "Of major importance to these conclusions, however, is the question of whether the energy industries can command their required share of capital. Capital will only be available to the extent that the industries can offer a satisfactory rate of return in the competitive market place. At the present time, the Federal Government and local governments are promoting policies, laws, regulations which impede the ability of energy industries to generate the profits necessary to attract investors.. If this punitive attitude is maintained, the energy industries will strangle under a resulting curtailment of capital under the present industries, and energy supply will turn into an overwhelming crisis."

But if the regulations are taken off, then we don't need a bill like that, that they will be able to generate their capital internally. Is that a fair conclusion?

THE VICE PRESIDENT: Regulation is not only on price, but you have the whole complexity of ecological statements.

SENATOR PACKWOOD: Their report is willing to factor in ecologically. What we are saying is if we are to impose upon them air pollution or water pollution standards of an extraordinary height, we have to allow them to recover the costs of that.

THE VICE PRESIDENT: Yes. That is fine. I have to say if I thought Congress was going to do that tomorrow, I would say wait on this bill and let's see. But I just don't think Congress is going to.

What you did was pass a bill which lowered gas prices until after elections so everybody gets reelected. People spend more money on gas. Now we are going back to big cars. We have got to understand we are living in a democracy.

SENATOR PACKWOOD: We are robbing Peter to pay Paul. We don't do the deregulation. Public Service Commissions won't allow the rates to go up. Instead we will borrow the

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money from taxpayers and finance it through loans. It is taking out of one pocket to put in another.

THE VICE PRESIDENT: I don't agree with the way you put it. You can say, as we had to in New York State, because the private companies couldn't do it, the State then went ahead and is now building -- almost finished one and is building another nuclear power plant.

So the government can come in and do all of this, which is what some people would like to see done. My only concern is, one, I think the private enterprise system is more efficient; and, two, I think by the time you get to \$600 to \$800 billion for energy alone coming from the government, somebody is going to balk and we just won't get there.

My feeling is you can do it for a fraction of that, 12, 14 percent; and once the thing is rolling, we get off dead center, we find out what these costs are, I think private capital is going to flow in because it will know where it is.

SENATOR STEVENSON: Mr. Vice President, as one who has spent several years attempting to quantify the effect of the rising energy prices on the GNP and on the inflation, I am tempted to join the issue on that subject.

It was no coincidence that the United States for the first time in its history has an adverse inflation and recession at the same time, just after energy prices quadrupled. But you are here this morning not to talk about that major component of the energy crisis, but instead talk about the crisis of supply. So I will resist that temptation to join issue with perhaps you and Mr. Zarb and also my colleague, Senator Packwood.

I could quarrel with some of the particulars in your statement, but I want first of all to commend you for the overall thrust of that statement and the urgency which you place on the need to assure us of adequate supplies of energy in the future.

I don't think the dimensions of the threat to our economic welfare and to our national security are still understood in the country. As a matter of fact, in a poll it was found 28 percent of the American people thought the energy problem was a serious problem. It is appalling.

First of all, to continue with the Chairman's questioning about the dimensions of capital requirements, that is one point on which I might quarrel with you. I don't think it is really possible for us to be, with confidence, precise about capital requirements in the future.

Would it be fair to restate your position as saying that whatever the costs are, we had better darn well be prepared to pay for them and put the institutions and mechanisms in place so we can meet those capital requirements

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as they come along, And if our projections are excessive or exaggerated, then the mechanisms don't have to be used to the fullest extent that is authorized by law.

THE VICE PRESIDENT: Yes.

SENATOR STEVENSON: I might add in that context I am always reminded by an old cartoon which you might recall of a delegate at the continental congress rising to ask, "May I ask how much this revolution is going to cost?"

You mentioned an element this morning of the crisis which I think we would do well to enlarge upon. It brings me to the main point I would like to take up with you: the dependence on foreign sources, the embargo that made us all well aware of the possibilities of the interdiction of supply. But supply could also be interdicted in transit.

How much of the world's oil supply passed through the Straits of Hormuz?

THE VICE PRESIDENT: Thirty-six percent.

SENATOR STEVENSON: How much of the total world supply? I think it is about 60 percent.

THE VICE PRESIDENT: I think so.

SENATOR STEVENSON: What would it take to block it?

THE VICE PRESIDENT: One big tanker.

SENATOR STEVENSON: Oil in transit can be blocked in the North Sea and the Eastern Mediterranean and on the periphery of Africa and the Red Sea, as well as at the mouth of the Persian Gulf.

You mentioned, not to sound the alarms of the call of war, but I think to indicate that the power to interdict oil supply is power that can be used for a multitude of purposes.

Let the record show the Vice President is nodding his head.

THE VICE PRESIDENT: Yes. I totally agree with what you are saying, so much so that I didn't feel it was necessary to say anything, because I just think this is not realized in this country by the people, by the Congress, or by the companies.

SENATOR STEVENSON: I think you indicated, or you know that even with an all-out domestic effort, the United States, according to the estimates of FEA, based on optimistic assumptions, will still by 1985 be dependent upon foreign sources for between 30 and 40 percent of its oil requirements. Is that right?

THE VICE PRESIDENT: By that time hopefully they will

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build up a billion dollar oil storage so there would be a capacity. Congressman Hays approved that; not the money, but the concept.

SENATOR STEVENSON: The point I want to make, or am trying to make, is even with an all-out effort, with the optimistic assumptions, the United States in the long term is going to remain dependent on foreign sources for oil.

As Canadian exports dwindle, and perhaps they do in Venezuela and elsewhere, that dependence could remain where it would become a large dependence on Middle Eastern sources of oil.

THE VICE PRESIDENT: Particularly because it is low sulfur. Venezuela is cut in half in their production because of high sulfur oil.

SENATOR STEVENSON: A recent survey by the U.S. Geological Survey concluded about 50 percent of the oil in the world remaining to be discovered existed in the non-OPEC, presently non-Communist, countries, principally in Latin America and in Africa.

Project Independence, your proposal, seemed to place exclusive reliance or independence on development of domestic resources of energy.

My question to you is whether that is right. Shouldn't we also recognize we can reduce our dependence on the most dependent sources of oil by diversifying foreign sources of oil; and not only reduce dependence on foreign sources that we are most concerned about now, but also produce energy at a relatively attractive economic cost?

A barrel of new oil to produce today in the United States costs about \$8. New oil in the third world costs between \$2 and \$3 a barrel. So for the sake of true independence, shouldn't we seek to develop additional foreign sources of oil, particularly in Latin America and in Africa, and shouldn't this agency which you propose be authorized to help in the financing of joint ventures and develop sources?

THE VICE PRESIDENT: Senator, I understand what you have said. I would ask two questions. One, do you consider Angola a tremendous find and dependable source? One wonders what some of these trends are.

The second is that Venezuela now has half its oil in shale. Con-Ed, let's face it -- taking New York as an example -- would rather buy Algerian oil which is low sulfur because of the restrictions on the use of sulfur oil. They can't burn sulfur oil because of those restrictions. So that this is a more complicated situation than purely where the oil comes from.

Lastly, while the Straits of Hormuz could be blocked off with the sinking of one tanker, there could be explosions of tankers at sea because they are sitting ducks, and after

enough explosions one would have to wonder then whether the sea lanes are the most secure source of supply. So that this is a complicated situation.

My personal summary would be that we ought to have the capacity and the prudent capacity to become self-sufficient, whether we continue to import, because of costs. So that you have that flexibility.

(Mr. Zarb answers.)

SENATOR STEVENSON: I am disappointed in that response, Frank, because by your own statement you are projecting reliance on independent sources.

You mentioned one pipeline across Canada would cost \$10 billion. That is another foreign opportunity for participation by this agency that you are suggesting. That transportation system across Canada could not only help the Canadians bring down natural gas, but by doing so you would also help them to continue not to increase exports of oil to the United States.

THE VICE PRESIDENT: That is a test case. If Canada would agree to do that, this would be a very exciting and very important source of gas.

SENATOR STEVENSON: The agreement will depend on the extent of their sources in the Beaufort Sea particularly. That is one example of the need for financing outside the territory of the United States.

You picked Angola. You could pick many other examples, a little less inflammatory.

THE VICE PRESIDENT: Nigeria wanted to sell us more oil. Since then they have had two changes in government. Now relations with them are pretty uncertain.

SENATOR STEVENSON: The only point is it seems to me we ought to be focusing some attention on exchanging American resources, including technology, including also capital, in exchange for assurances of supply at reasonable prices from abroad as well as at home.

To place exclusive reliance on the development of domestic resources continues with what I will call a grave American risk syndrome, without giving us independence, continued by your own projection on dependence on foreign sources.

THE VICE PRESIDENT: Senator, I understand what you are saying. Were it possible to achieve secure supplies abroad, then I am totally with you. I think you pose a very difficult problem for any oil producing nation that is a member of OPEC.

If they are a member of OPEC, they cannot break the rights. Venezuela and Ecuador are both members of OPEC.

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Although it is interesting to note neither Venezuela nor Ecuador boycotted the United States. Yet when the Congress passed a bill which removed OPEC countries from the most favored nation list we removed Venezuela and Ecuador. They were furious and all of Latin America was furious.

That was a year-and-a-half ago. Congress yet has refused to restore them to the most favored nation list.

How do you make friends and influence people when we do this kind of thing to our friends? So we have some very real problems in dealing consistently.

I just came back from a trip to nine countries around the world. Everywhere I went, the one question is, can we count on the United States?

This is a very serious problem, that people are beginning to wonder whether we are going to be consistent in what we do. So when we talk about developing reliable sources, that involves our being reliable ourselves in our relationship with those countries.

SENATOR PROXMIRE: Gentlemen, we have two other witnesses. I will be as brief as I can, and I just have one or two other areas I want to explore on this. I will explore it as quickly as possible.

I don't mean to just harp on one note, but I just can't get over the size of this: \$100 billion. I was just trying to see how we would fit it in this perspective. It is a seven year program. You make your commitments over seven years and they can run for another three years.

Take those seven years; \$100 billion means that you would have more than \$1 billion a month, more than \$250 million a week, on a five-day week \$50 million a day, an eight-hour day you would have \$6 million an hour, \$100,000 a minute, about \$1,500 a second.

THE VICE PRESIDENT: That is about a quarter of what the government spends for that second.

SENATOR PROXMIRE: It may well be. The reason I raise that point is we are taking that colossal amount out of this budget. I have here a list of the loan programs. This isn't entirely a loan program.

The loan programs include the Farmers Home Administration, most of the housing programs, almost all of the Export-Import Bank -- which used to be out of the budget and is now back in the budget.

The determination of Congress and the Budget Committee puts everything it possibly can in the budget so they can compete on a priority basis.

Now here we have a program that is bound to have an effect on the availability of capital and the availability

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of resources. It is a program that does not simply involve loans, but risky loans that won't be made in the private sector. In the second place, it is a program that also involves common stock investments. Of course, that is even riskier. It is a program also permitting price supports.

I don't know how it is possible to have a price guarantee program on this kind of scale without losing some money, and you might lose several million dollars. It would seem to me that the Congress should therefore insist that this should be placed in the budget to compete with the other demands on our resources and require regular appropriations by the Congress.

Why do you insist on having this outside the budget and how important is that particular part of your bill?

THE VICE PRESIDENT: Let me make two comments in general refrain. One, you mentioned the Ex-Im Bank. It is very interesting. The Ex-Im Bank does very much of what we are talking about doing, only for any investment by an American company abroad, which is an interesting thing.

We are willing to support the sale of equipment to build a gasification or liquefaction plant in Algeria through the Ex-Im Bank, but we don't do it now.

SENATOR PROXMIRE: That is in the budget now.

THE VICE PRESIDENT: This is in the budget. Whether it is in the budget or not is simply because -- the reason for not putting it in is because it was anticipated that only a small percentage of this would actually be a government expense. The rest would be returned when the loans are paid off. Therefore, it cannot seem to be equivalent to an expenditure by the government and, therefore, the OMB made up a list for five years which included the \$5 billion anticipated loss in five years. So that was the reason for that.

SENATOR PROXMIRE: Isn't it true, Mr. Vice President, that some of these commitments, particularly the price support, and very likely the common stock investment or preferred stock, whatever it is, equity investments, are likely to be in effect expenditures?

THE VICE PRESIDENT: They could be. That is why it was suggested the \$25 billion be in equity and \$75 billion be in loans.

As far as the other point that you made, which is bound to affect the availability of capital, there is no question that today it is better to finance a McDonald's hamburger stand because you can get a better return on your capital. But that might not be in the best interest of the United States.

Somebody has got to decide where capital goes to reflect our national interest. I have to admit that it is

certainly strange for me to be here testifying on this side of the issue. One would expect me to say have government stay out of this stuff and leave it in private hands.

My concern is first our national security and national well-being. I am deeply concerned that this country is running risks way beyond what we can afford to run and that we are vulnerable to the point that very few Americans realize.

SENATOR PROXMIRE: Why not trust Congress to make these appropriations in the budget if they can be justified?

It seems to me you have made a strong case and a very appealing case. Why shouldn't that case have to be made whenever we decide whether to loan money here? As I say, the overwhelming majority of our loan programs are in the budget, virtually every kind of expenditure program.

THE VICE PRESIDENT: Senator Proxmire, if you told me right now the Congress was ready to make the \$100 billion available and you wanted to put it in the budget, frankly, I would say fine, as long as you are going to do it.

I worry if you put it in the budget, that then somebody is going to say, "This is going to increase the budget from \$400 billion to \$410 billion, and that is too big a jump," and therefore they are not going to do it.

SENATOR PROXMIRE: In other words, we are kidding ourselves if we don't put it in.

THE VICE PRESIDENT: No.

SENATOR PROXMIRE: You are not admitting that.

THE VICE PRESIDENT: No. I don't agree. This is an investment, not an expenditure.

SENATOR PROXMIRE: Mr. Vice President, every one of the loan programs is an investment. Most of them are excellent investments, returned with interest.

THE VICE PRESIDENT: Frankly, better investments probably than these would be. This may be more urgent in many respects.

We ought to have a budget that shows expenditures and capital investments separately. I think it is misleading to the public.

SENATOR PROXMIRE: I would agree. We ought to have a capital budget. We don't have a capital budget, however. Since we put capital in the budget now, it seems to me we should be consistent.

THE VICE PRESIDENT: You put some in. You are on the way.

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SENATOR PROXMIRE: Yes.

Let me ask you this: The bill requires "that a project would not receive sufficient funding upon commercially reasonable terms" -- does that mean the EIA could authorize a project that could borrow money at 12 percent? That might seem unreasonable. Would you then move in and provide the funds at 8 or 9?

THE VICE PRESIDENT: I think that is right. I don't think the utility could afford to pay the 12 percent because it couldn't get the rate increase that would support it. I think that is a hypothetical case that wouldn't work.

I apologize for using New York, but that is what I am familiar with. There are seven utility companies there. None of them can afford to build. They tried to get together and form a finance construction company.

There are 18 regulatory bodies, State and Federal. The lawyers worked for two years and they could not satisfy all of the provisions of all the regulatory bodies which would permit them to do it.

This will force slowly government construction. Maybe that is something that this country wants to come to.

SENATOR PROXMIRE: Then the Federal Government would offer better terms than the private market under this legislation.

THE VICE PRESIDENT: No. It would offer the prime rate. It wouldn't go below the prime rate.

SENATOR PROXMIRE: That is right. But in this case you might have something that would be 12 or 15 percent.

THE VICE PRESIDENT: That is right.

SENATOR PROXMIRE: They wouldn't proceed on this basis. With nine or ten they might, as it would be the prime rate, or above. It would offer better terms than the private market would, given the risks.

In that case how could you possibly comply with the provisions in the bill that Federal assistance "not unduly enhance the recipient's competitive position"?

Wouldn't that put the recipient in a strong position since he is able to borrow money for this kind of a project below the market and strengthen his competitive position since the risk is assumed by the Federal Government?

THE VICE PRESIDENT: It is not. It is not in the competitive position in the market. It wouldn't compete with other private markets. It is not a competitive position in producing electricity or gas which is needed by the consumers.

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SENATOR PROXMIRE: You are right, of course. I wouldn't argue with you on the competition with the financial sector. But I would with respect to the effect on the competitor in that particular energy industry.

THE VICE PRESIDENT: No. Because what it states in the bill is that this project shall not be financed unless it is a significant contribution to energy independence.

If it could be financed by somebody else, if somebody else can do it, then they wouldn't do it. It is to fill a vacuum, not to compete.

You talk about the amount of money. There are 18 gas industries. There will be 18 coal gasification plants. That is \$18 billion.

We have 92 atomic power plants cancelled. Let's say you went for 50. That is \$50 billion. So there is \$68 billion.

Senator Stevenson talked about the \$10 million for a pipeline across Canada. I doubt very much whether private enterprise would be able to finance that.

These things grow very rapidly in terms of the amount of money that is involved. The \$600 to \$800 billion is an awful lot of money.

SENATOR PROXMIRE: That isn't new technology. That is not proving new technology. What that is is providing facilities that otherwise would not be provided to increase our production of energy.

THE VICE PRESIDENT: That is right. Both are permitted under the terms of the bill.

SENATOR PROXMIRE: One more question. For the record, would you provide in the fullest possible detail the assumptions for the statements that you make on page three in which you argue that conservation would at a maximum save 5 percent over a 10-year period, oil increase by 50 percent, natural gas 10 percent, and nuclear 300 percent?

It is an assertion that may be true, but I think we need the most detailed documentation you can give us. It seems to me that can be challenged right along the line.

THE VICE PRESIDENT: I took them all from Frank's book. We will give you the details.

SENATOR STEVENSON: Mr. Chairman, just to get one point clear for the record. The Vice President mentioned the possible pipeline facility across Canada for the transmission of gas.

My question earlier was, or intended was whether this financing of energy could aid in the financing of American activities abroad, including Canada, and including, it might be, reprocessing of nuclear fuels, waste nuclear

fuels abroad, or oil and gas production in Brazil.

From your reference again to the argument for a pipeline in Canada, I assume that it would be available. But from your earlier response, I thought it would not be available.

THE VICE PRESIDENT: It would, if it can be proven that it adds to our independence. In other words, that gets back to your question -- assured sources of supply.

SENATOR STEVENSON: Then there is no disagreement between us.

THE VICE PRESIDENT: But I would like to say one other thing on your earlier question about price and inflation which to me is a very interesting and important thing.

To me the man who has been clearest in his position on why OPEC has done what it has done is the Shah of Iran.

The Shah of Iran stated that oil is a finite product and that it should be used with great care for those things which it is essential -- petrochemicals and so forth -- and should not be wasted.

Therefore, his concept is to set oil prices at a figure which encourages the development of substitutes for the things which gas could not be used that it should be used for.

One may not agree with it. It is an interesting philosophy. That really affects the situation of inflation.

SENATOR STEVENSON: Mr. Vice President, I have recently discussed not only oil pricing but also the Straits of Hormuz with His Imperial Majesty, the pricing subject, among other things, with Dr. Emlusicarr, whom you are both relatively familiar with also.

He, much to my pleasure, conceded -- I trust it was not intended to be a private concession -- that the Iranian Government, like the other governments of the OPEC members, did not understand the effects of the energy crisis as they ripple out to inflated costs of every service.

He indicated, as I was trying to do earlier, that we need to do something to quantify those effects. He felt this ought to be a high priority for the producers in Europe.

Getting back to that earlier point, before they precipitously increase oil prices, as they do not intend to do now, I think, with the OPEC --

THE VICE PRESIDENT: That is right.

SENATOR STEVENSON: -- we ought to be very cautious and I would hope begin the analyses that can begin to tell us what all of the economic concepts of the inflationary and

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recessionary are, given the changes in the energy crisis.

THE VICE PRESIDENT: Mr. Chairman, may I just say in conclusion that I appreciate so very much your having these hearings.

What worries me is we are on dead center as a nation, both in terms of public understanding of the problem and the congressional action and the corporate action. Everybody is sort of just standing still.

I think we can't afford this as a nation. We have got to get off dead center and get going. I see no other way than the government which is responsible for the security and the well-being of the American people to take an initiative which gets us off that dead center.

To me this is a viable initiative and in the pattern which has been used before through the RFC, Rubber Reserve, aluminum, et cetera, during World War II; and that properly managed it can do what is necessary and not do more. The minute it gets going and the thing gets started, it can pull in its horns.

I think it is a sound, constructive role for government to play. As I mentioned, we have done as a government those things which were necessary to achieve national objectives in other areas by other means.

I think this one is one that thanks to you is going to get the kind of attention and exposure which is so important in a democracy. I thank you.

SENATOR PROXMIRE: Thank you very much, Mr. Vice President, for an excellent presentation and for calling to the attention of this committee and of the Congress the urgency of this issue, challenging us to do something about it.

As Senator Packwood has said so well, if we turn this down, we can come up with something that will be better, if we can. I think you have made, as I say, a very fine presentation.

I have that post office syndrome, you know. I don't want to make our oil industry like the post office. Somehow the government gets in this deeply and there are all kinds of problems.

You have made a very fine presentation, and we are off to a good start on this. Thank you very much.

THE VICE PRESIDENT: I appreciate it.

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(AT 11:25 A.M. EST)