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MULTINATIONAL OIL COMPANIES AND OPEC: IMPLICATIONS FOR U.S. POLICY

HEARINGS

BEFORE THE

SUBCOMMITTEE ON ENERGY

OF THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

NINETY-FOURTH CONGRESS

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MULTINATIONAL OIL COMPANIES AND OPEC: IMPLICATIONS FOR U.S. POLICY

WEDNESDAY, JUNE 2, 1976

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ENERGY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:20 a.m., in room 1114, Dirksen Senate Office Building, Hon. Edward M. Kennedy (chairman of the subcommittee) presiding.

Present: Senators Kennedy, Javits, and Percy; and Representatives Hamilton, Long, and Brown of Ohio.

Also present: John G. Stewart, subcommittee professional staff member; William A. Cox and Sarah Jackson, professional staff members; Michael J. Runde, administrative assistant; Charles H. Bradford, senior minority economist; and George D. Krumbhaar, Jr., minority counsel.

OPENING STATEMENT OF CHAIRMAN KENNEDY

Chairman KENNEDY. We will come to order.

This is the first of 3 days of hearings before the Subcommittee on Energy of the Joint Economic Committee to examine the implications for U.S. energy policy of the evolving relationships between multinational oil companies and OPEC.

We hope these hearings will help illuminate the basic policy choices open to the U.S. Government in its efforts to design a more effective international energy policy. Nearly 3 years after the oil embargo, we are still very much in the posture simply of responding to external events that can have the most serious impact on energy supply and prices, whether these events are meetings of the OPEC oil ministers in Indonesia or negotiations between representatives of Aramco, and Shiek Yamani of Saudi Arabia in Panama City, Fla.

At the request of the Joint Economic Committee, the General Accounting Office is conducting a major study that evaluates these choices in light of the near total control over foreign oil resources now exercised by the producing countries, the apparent continuing strength of the OPEC cartel, the significant role still played by U.S. companies in the production and marketing of OPEC oil, and the growing dependence of the United States on imports.

These factors are, as usual, of special concern to Massachusetts and all of the New England States, given our historic dependence on imported oil and our heavy reliance on oil to heat our homes and run our factories.

The American people want to know whether the price of oil will keep going up and what our Government and our oil companies can do about it. They want to know what our Government and companies are doing to offset another possible oil embargo.

On the basis of the testimony at these and whatever subsequent hearings may be held by the Energy Subcommittee, and drawing from the study now being conducted by the GAO, the Joint Economic Committee will offer specific policy recommendations to Congress.

We welcome our witnesses today. In recent years there has been no lack of criticism of our oil companies, much of it quite merited. But some of it, I suspect, has come about by a failure on both sides to explore these difficult problems with an open mind and a willingness to listen to the other fellow's point of view. We hope this exchange can be frank, candid, outspoken—but respectful.

These hearings will not dwell unduly on past events since other committees of Congress have conducted exhaustive inquiries into the historical record. Nonetheless, the perspective of history is important in understanding three major areas of concern.

First, the new relationships that now exist between multinational oil companies and producing countries have raised questions about the companies' priorities. Is it to get the best price for the American consumer? Or is mere access to crude the companies' top priority, regardless of the price imposed by the cartel? What is the best interest of the United States?

It is clear that OPEC governments are rapidly assuming full ownership of the means of producing oil within their respective boundaries. Exporting nations have increased their share of ownership from 12 percent in 1972 to 62 percent as of last January. When the final arrangements between the Aramco partners and the Government of Saudi Arabia are completed, national participation will increase dramatically and Aramco will become independent of the multinational oil companies—Socol, Texaco, Exxon, and Mobil—which now share its ownership. It will become, in effect, an "Eighth Sister," in reserves the largest oil company in the world.

But this historic shift from ownership to participation has not eliminated the essential role that major multinational oil companies perform for OPEC governments. The companies explore for, transport, refine, and sell most of OPEC's oil. Countries which have nationalized concessions have not waved goodbye to the concessionary companies. Instead, they negotiate continuing long term, preferential sales contracts with the companies as a way of guaranteeing outlets for their production in world markets.

The companies, many observers believe, give priority concern to achieving long-term access to these crude supplies that are essential in maintaining the operations of their vertically integrated structure. More than this, there is growing concern about whether the companies are playing a vital role in helping proration crude production among OPEC countries in a way that protects the basic price set by the cartel.

In short, many Americans want to know whether the major companies and the producing countries have important common interests that often work against the goal of achieving lower oil prices for consumers.

Second, the perspective of history is necessary in evaluating the impact of these supply arrangements upon the price of imported oil.

Viewed from the standpoint of a refiner in the United States, the delivered cost of crude oil imported from overseas more than quadrupled, from less than $3 to more than $13 per barrel, between 1970 and late 1975. From the standpoint of the oil-producing countries who are members of OPEC, the same 5 years have seen their "take" or revenues per barrel of crude, jump by a factor of 11, from a little over $1 to a little over $11.

Opinion is divided as to whether this is a reflection of the power of OPEC as an organization or of the power of the individual governments which control large shares of the world's oil productivity and which happen to be members of the organization. Either way, the spiral of crude costs and the explosion in government "take" resulted from the actions of governments, emboldened by the waning power of the oligopoly of international major oil companies.

The producing governments first succeeded in asserting their power to set the "posted prices" of the oil produced in their countries. Then they raised those prices. With each successive hike in posted prices, the cost of oil to the companies operating in the OPEC countries went up.

The lion's share of the price increase occurred in the winter of 1973–74, coincident with a supply shortage which was "artificial" in the sense that it arose not to natural, physical constraints on productive capacity, but rather to governmentally imposed cutbacks of production in aid of the anti-Israel embargo. Artificial as it was, the reduction in supply brought the law of supply and demand to the aid of the decreed high prices and, theoretically, helped to make them stick.

We might have expected prices to recede after the end of the embargo, owing to the great excess of supply over the depressed world demand for OPEC oil. Some authorities invoked classic economic theory to predict that this would happen. But it has not. On the contrary, the 2½ years since the embargo have seen OPEC succeed in raising prices even further in the teeth of an oversupply situation that has sometimes been labeled a "glut."

We cannot avoid asking the question: Did the multinational oil companies play a key role in helping set production quotas among the OPEC members, and thus support OPEC's ability to maintain the cartel price?

Third, the perspective of history helps illuminate the inadequacy of present policies of the U.S. Government in regard to international oil.

The exhaustive hearings conducted by Senator Frank Church before the Senate Subcommittee on Multinational Corporations conclusively demonstrated that for most of the postwar era the U.S. Government viewed the multinational oil companies as instruments of U.S. foreign policy, especially in the Middle East, and that the U.S. Government also considered the interests of the companies basically identical with the U.S. national interest. Out of these two assumptions evolved the system of oil allocation administered by the majors and relied upon by the consumer nations.

This system has now collapsed. As a consequence, the policy assumptions on which the system was founded can no longer be relied upon. It would appear, however, that our Government has yet to recognize this fact or adjust itself to the new realities of the international oil market. In fact, if one steps back and assesses the record of the last 6 years, it would be hard to devise a series of U.S. policies—including the oil tariff and threats to invade producer countries—that could have better served the interests of OPEC. It is largely a record of confusion and false starts, misunderstandings, and limited success.

The hearings on which we embark today are premised on the belief that it is time to put aside our feelings of futility—and hostility—in our dealings with OPEC and look to our strengths in the international oil trade, without, however, resorting to the bluster and empty threats of our initial response to the embargo and the OPEC-induced price increases.

I have long believed that our best hope lies in an effort to cooperate with oil-producing states, as well as with consumers. But this does not mean that we should do any less than try to maximize our own advantages and strike the toughest bargains possible. This means giving the OPEC members solid means for not raising the price of oil or instituting another embargo.

A number of propositions need to be examined and evaluated. For example, should the United States assume a more direct role in the negotiations between multinational companies and the producing nations, such as requiring U.S. approval of all long-term supply contracts? Or should the United States simply require the companies to provide the Government with full and complete information about such negotiations while reserving the right to intervene if U.S. interests require it? Should the United States become the principal purchasing agent of OPEC oil, thereby removing the companies from their new role of de facto managers of production levels among OPEC members? Or, alternatively, should the Government support the companies in a common effort to force a lower price by their refusing to market oil at irrational and inflated prices? Should the production subsidiaries of the major oil companies be separated from their transportation, refining, and marketing subsidiaries as a way of generating greater competition among companies in the purchase of OPEC oil and as a way of denying to OPEC the guaranteed markets of the vertically integrated companies? Finally, what institutional reforms within the U.S. Government are needed to provide the United States with the capacity to play a more direct and coherent role in the international oil market?

The answers to these and related questions are neither simple nor self-evident. This is a policy area of great complexity, one ill-suited to gimmicks or pat answers in the search for lasting solutions. But this much is certain, we, as a Nation, can no longer afford to lurch along from crisis-to-crisis, simply hoping for the best, in the absence of an international energy policy based on the realities of today's world.

Senator Javits.

Opening Statement of Senator Javits

Senator Javits. Mr. Chairman, I will be very brief.

Mr. Chairman, I consider this one of the most important hearings the Joint Economic Committee has had because I find a state of complacency in the country and in the Government about one of the most critical problems of American life, and that is the continued effective operation of our economic system and our industrial plant, which indispensably is fueled by oil. The world cannot bear up under—notwithstanding that we seem to have tried to adjust to it—so cataclysmic a rise in the price of raw materials as has taken place in the price of oil.

I attribute to the rise in the price of oil the principal reason for the near depression beginning in December of 1974, and for the rate of intolerable inflation experienced in 1975. I don't think even the OPEC countries realize what they have done to this world in which they live.

Second, complacency is evidenced by a complete lack of conservation of energy in this country: The lack which is so grossly negligent as to be almost criminal in terms of its eventual impact on the American people.

We are not less dependent, Mr. Chairman, we are more dependent upon foreign soil sources of a highly unstable and difficult political nature. And finally, by our failure in other respects, we have been driven to the drastic remedies of enforcing antitrust laws by legislation which are inherent in the divestiture concept. We would not be anywhere near such drastic decisions, both in American politics where we abhor bills of attainder and ex post facto actions as a principle of life and as a principle of justice; but nevertheless, we are driven to their serious consideration because of lack of effective bargaining with the OPEC countries, attributable to our own weakness.

I will appreciate, as will the Chair, the view of these witnesses on the question of divestiture, and whether it will do us more harm than good. I know that they are prejudiced, nonetheless, they are the people in the business and we know that they have their point of view for very selfish and understandable reasons. But the facts are critically important, as to what it will mean.

For myself, I have been unwilling as yet to vote for divestiture until I know what it means. It is easy enough to divest, but it's awfully hard to put the "scrambled eggs" together again if you find you have made a horrible mistake.

So, Mr. Chairman, I would like to compliment you and Senator Humphrey, the chairman of our committee. We are not a legislative committee, but we are the "think" committee of the Congress, and of all the things we need in this field it is thought and energy and getting rid of the idea that it is all okay, business is as usual, and that you can still drive 60 miles to dinner. We simply cannot afford it, we cannot do it. As I say, it is so grossly negligent of our future as to be criminal in its implications.

Thank you, Mr. Chairman.

Chairman KENNEDY. Thank you very much, Senator Javits.

We will start off with our first witness, Mr. Tavoulareas, and his associates. He is in his present position as director, president and vice chairman of the executive committee of Mobil Oil Corp. since 1969; he joined Mobil in 1947 to work in the Middle East accounting department; since then he has worked in corporate planning, analysis, the supply and distribution of international sales. Since 1965, as senior

vice president, he became responsible for planning, supply, transportation in Middle East and Indonesian affairs. In 1967, he was chosen president of the North American division, and we are looking forward to his remarks.

I want to welcome you, Mr. Tavoulareas, please introduce your associates.

STATEMENT OF WILLIAM P. TAVOULAREAS, PRESIDENT, MOBIL OIL CORP., ACCOMPANIED BY GEORGE BIRRELL, GENERAL COUNSEL; AND LARRY WOODS, VICE PRESIDENT OF PLANNING

Mr. TAVOULAREAS. Mr. Chairman, I would like to introduce George Birrell, general counsel of Mobil Oil Corp. and Larry Woods, vice president of planning, Mobil Oil Corp.

Chairman KENNEDY. Thank you. Proceed.

Mr. TAVOULAREAS. I have a prepared statement, and I would like to read the statement, if I may.

My name is William P. Tavoulareas. I am the president of Mobil Oil Corp., and I appreciate the opportunity to appear before you today to say a few words about the international oil situation.

Today, I would like to discuss the relationships which the companies have with the major producing countries, to indicate what appear to me to be logical ambitions for these countries and to explain the role which the companies perform in the world of international petroleum trade. I hope thereby to demonstrate why the U.S. Government should understand these various matters which bear on the welfare not only of the companies and producing countries but, more importantly, of the United States and the free world. Finally, I will outline the steps which the United States should take to lessen its dependence upon foreign oil.

Our company's operations in the Middle East began in Iraq before the Second World War; after that war we secured participation in the Arabian American Oil Co., better known as ARAMCO, and the Iran Consortium. While the history of oil in the Middle East has at times been colorful and interesting, I do not believe that reviewing history will contribute meaningfully to the objectives of these hearings. There have been many discussions and negotiations in the last 25 years, and I have participated in most of them; it would take hours for me to go over the details of those events.

There is, however, one observation I would like to make with respect to our history in the Middle East, since the late 1940's there has hardly been a period when we were not negotiating some open issue with one or more of the producing governments. In this regard I would like to make two points.

First, the producing governments have shown great tenacity and increasing sophistication in the negotiations which have been held over the many years; in short, they are very intelligent and experienced and are not pushovers for gimmicky arguments or ploys, as some people believe. They require the same kind of hard facts and persuasive argument that you would expect in any negotiation conducted with the top-ranking economists, businessmen, or politicians in any country. Pertinent to this point is a quotation which appeared in the May 17 issue

of Petroleum Intelligence Weekly from an interview with Howard Page, former director of Exxon and the dean of the oil company negotiators during much of this period.

> I have the feeling that many of the proposals and theories start with the premise that the OPEC people are stupid and naive and can be easily fooled or frightened. My personal experience is that those OPEC representatives I have dealt with are far smarter than any of the people who make these kinds of suggestions.

Second, these negotiations have been conducted against an ever-changing background of economic and political developments. We have found it necessary to revise our agreements on the basis of changed circumstances. We have learned there are no quick fixes that will settle all issues for the indefinite future. Thus, we have seen our financial arrangements with the producing governments change from payment of a royalty only in the 1940's to a payment of a royalty and a tax in 1950. Between 1950 and 1970 we saw the Iranian nationalization, the partial nationalization in Iraq, the overthrow of the Iraqi Government, interruptions of supplies, endless negotiations on crude oil realizations, and a multitude of ministers with whom we had to deal; through all of this, crude production constantly increased to meet the world demand.

In 1970, following the closing of the Suez Canal and the surge in freight rates which that event occasioned, Libya was able to obtain greatly increased prices for export of their crude, which was so conveniently located in relation to the large European market. Then, in February 1971, we negotiated a 5-year agreement with the OPEC countries in Teheran. We had every right to expect that this agreement would endure for the full 5-year period. And yet, within a relatively few months there was a fundamental shift in the parity of the U.S. dollar against major foreign currencies. There are differences of opinion in the industry as to whether the 1971 agreement contemplated the possibility of such a change, and it is fruitless to argue whether the words could be read to contemplate such a change, but the fact is that a deterioration in the value of the dollar was a shocking event to the producing countries; it was unprecedented and unpredicted, it greatly decreased their oil revenues, and it caused them to insist upon a currency adjustment.

When OPEC was established, the question had arisen as to whether the companies should be able to set oil prices unilaterally. In 1971 we agreed to negotiate with the governments the tax reference or posted price, and the companies continued to have a role in setting prices until the latter part of 1973 when the governments set prices unilaterally. With the benefit of hindsight, I believe it might have been possible to have had a further negotiation for new price levels even as late as the fall of 1973, but I do not believe that such a negotiation could have been concluded on an acceptable basis to the oil companies and the governments. It was my belief at that time that the price expectations of the producing countries were greater than the companies could have accepted.

While the shock of the devaluation of the dollar was unsettling, a more fundamental change was also occurring. Oil demand, particularly for U.S. imports, was growing faster than anyone's expectations.

In the years immediately preceding October 1973, the United States had moved from a relatively minor importer of petroleum—imported crude was 11 to 13 percent of U.S. total refinery runs over the 1960–70 period—until by the fall of 1973 the United States had surpassed Japan as the world's No. 1 petroleum importing country (6.3 Mbbl/d versus 5.4 Mbbl/d), and imported crude represented 25 percent of refinery runs. Production in the OPEC countries was rapidly increasing toward the limits of capacity, and the producing governments could see that they had increasing strength on their side, causing continuing pressure for higher prices, over and above the amount necessary to correct for the devaluation of the dollar.

In any case, by October 1973 the companies had lost their freedom to price crude oil exports. The "War" began on October 6, and at a meeting in Kuwait on October 16, the companies were not even invited to take part in the price deliberations. These OPEC deliberations resulted in a unilateral increase for the price of the marker crude—marker crude is the price of Arabian crude used as benchmark—from $3.01/bbl to $5.22/bbl, an increase of about 70 percent and the clear precursor of the much higher crude prices which were to follow.

On October 18 an embargo was instituted against the United States; it was later expanded to certain other consuming countries. In December the OPEC members met again, this time in Teheran. At this meeting a further increase in crude prices was agreed upon, although apparently not without some internal dissension. Effective in January 1974, the price for the marker crude rose to $11.65 a barrel, more than double the price they had set unilaterally only 2 months earlier.

Over this same period the producing countries increased their emphasis on the need for modifying the old concession agreements to achieve participation. Participation was not a new idea, but had originated with Resolution No. 90 passed by OPEC on July 26, 1968; the term was taken generally to mean the entry by the Government into the marketing of some production and also the contractual right to influence operating decisions. With the oil received from participation, the producing countries could do some direct marketing of crude oil, including some through auction sales. I should perhaps pause here to state in a bit more detail the events surrounding the auction sales of 1973, since there is a body of opinion in this country to the effect that the auction of U.S. crude oil imports somehow could produce a lower price.

In an auction, a company with few alternative sources of supply tends to bid a price high enough to secure the required quantities. On the other hand, the company which has alternatives tends to bid a price which is competitive with those alternatives.

So, what happened? In the crisis atmosphere of the embargo many of the smaller companies panicked, and at the Iran auction in the fall of 1973 a high bid of $17 a barrel was made, more than triple the then posted price. In Nigeria, some independents bid as high as $22 a barrel for the low-sulfur, conveniently located Nigerian crude. Certain OPEC countries then used these prices to justify the OPEC price increases of December 1973.

That an auction system holds no promise for reduction of crude prices for the United States seems obvious to me, but I leave it to the

unbiased observers to judge for themselves from the facts. Certainly, at the time when the question is most critical—when there is a shortage—the auction alternative will only produce higher prices; and if there is a surplus, the seller can either set an upset price or refuse to sell, in much the same fashion as the U.S. Government now establishes minimum bonus prices for offshore lease tracts.

There has been considerable talk about the so-called final takeover of the producing company assets in the OPEC countries, often referred to in terms of an end of an era or some other equally dramatic appellation. To my way of thinking, the end of an era label overstates the case. I believe one can discern a clear evolutionary trend—with some benefit of hindsight—as the following few facts regarding the profitability of oil companies operating in the Middle East may indicate.

The table[1] attached to my statement shows certain years, 1948 right through 1975; and then the posted price—there is no posted price shown for 1948 because there was no posted price in 1948—the price at which we sell to our affiliated companies; the average government take; the operating cost, and the company profit. Now, if you look at the last column, you will see how our profit has constantly declined over the years from 1948 to 1975. So, to say that we favor increasing prices and lowering profitability, which some people apparently say, to me is unbelievable.

As you can see, the margin per barrel for the international companies operating in the Middle East has continually decined since Middle East oil became a factor in international trade, while the "profit" on the government side has steadily increased. This evolutionary process took place even while the companies owned 100 percent of the concession and controlled prices. The present move toward 100-percent ownership by the countries can be viewed as yet another step in a steady erosion of company unit profitability. I don't mean to oversimplify the situation by implying that this is the only consequence of 100-percent ownership, since it is clear that the host governments have obtained access to substantial quantities of crude oil which they can utilize as they see fit and as economic conditions warrant. Thus, for example, during periods of surplus we can expect pressure on the companies to lift a substantial part of the government share, while the government will want to market separately during periods when supplies are tighter.

We are still seeing the emergence of the thinking of the host governments as to what their future role in the international oil markets should be, and only time will tell how they will ultimately decide to proceed. Nevertheless, at the present time they appear to have very little interest in investing in downstream marketing and refinery facilities in foreign countries. I believe there are several reasons for this reluctance. First, these downstream functions are not as profitable for them as the producing investments and other investments they believe they can or should make. In addition, these downstream functions are very capital intensive. The required investment for a daily barrel of Middle East crude production has been as low as $300, and even now is running somewhat over $1,000, while a comparable Euro-

[1] See table, p. 15.

pean marketing and refining investment would be $6,000 per daily barrel, or more.

Moreover, investments in consuming countries would have to be carefully selected to match the economic yield pattern from the crude which each country has available. Finally, the downstream investments would be vulnerable to future expropriation by the consuming country.

There does appear to be some interest in the part of certain OPEC countries to become involved with ocean transportation. The depressed nature of the tanker market has both helped and hindered this movement. On the one hand, the depressed freight rates allow for low-cost acquisition while, on the other hand, they restrict profitability. Over a period of time the proliferation of producing country fleets may well create inflexibility in the international movement of petroleum.

In their own countries, the producing governments have large plans for future investments. There are substantial new investments on the drawing boards for refineries and petrochemical plants, as well as for facilities to export natural gas. One of the driving forces behind these investments is the desire to retain more of the value added in the producing countries than would be the case with the mere export of crude oil. Moreover, investments in their own country are immune from the risk of expropriation.

Apart from petroleum investments, there are of course large industrialization and military projects in all the OPEC countries, and in particular in Saudi Arabia and Iran. Extrapolation of the current trends of spending in the various OPEC countries in relation to the likely levels of revenue suggest that some of these countries will be far outspending their revenue sources, while others—and in particular Saudi Arabia—will amass large surpluses of dollars.

I would be remiss if I did not point out the importance of the OPEC countries' crude reserves in the long term energy balances of the free world. It is always risky to discuss reserve estimates because, in spite of the technological progress the petroleum industry has made, the only way to find out for certain whether hydrocarbons exist is to drill. Bearing this uncertainty in mind, the OPEC countries currently process about 65 percent of the free world's known crude reserves, and Saudi Arabia alone possesses rather more than one-third of OPEC's total reserves. The important concept is the pivotal role Saudia Arabia and Iran play. Indeed, so long as these two OPEC countries continue to support OPEC, the cartel will last.

Generally, the Saudis have adopted more moderate positions on price than other OPEC members. The more pressing revenue needs and political objectives of some other producing states have led them to demand higher prices than the Saudis considered necessary, or felt the economies of the free world could tolerate. It is of vital importance to the interests of the United States and the rest of the free world that Saudi Arabia continue to feel justified in increasing production, even though it will thereby also continue to amass dollar surpluses. While Saudi Arabia wants to continue to be a close friend of the United States, it is also sensitive to the problems of its partners in OPEC and in the Arab world. Neither they nor their associates are immune to worldwide economic developments, including inflation. Recently King Khalid stated that continued inflation in im-

ports of manufactured goods would lead to a further increase in crude prices. I believe his statement dealt more with long term trends than with the short term position of Saudi Arabia on crude pricing.

This statement was written before the welcome action by OPEC last week not to raise prices, mainly because of Saudi Arabia.

Because of the strains which will accompany too rapid a growth of production, the Saudis and some other OPEC states would actually be relieved to see us develop alternative energy resources. They recognize that there will be long leadtimes to develop coal, nuclear and other alternatives, but if these other sources are not developed in timely fashion, the pressure of energy demand growth throughout the world can increase the risks of confrontation between OPEC and the consuming countries. After all, we cannot expect these countries to deplete their limited natural resources quickly, merely because we won't face up to our own energy problems.

I expect that we will continue to see adjustments in crude prices to reflect quality variations, locational differentials, and from time to time, sweetners to enable countries with greater revenue needs to sell somewhat more crude. They will continue to argue about these relatively minor points, but I see no sign at present that the cartel will not hold together. In February of this year, as an example, Iran lowered the price of Iranian heavy crude by 9.5 cents a barrel. I could give you other examples to indicate that crude prices have been and are in a continual state of flux within relatively narrow ranges, but make no mistake—these are relatively small and do not significantly affect the overall level of crude prices.

It is appropriate at this point to say a word about the role which the international oil companies can or may play in the future, particularly in the producing areas. We have now had experience with a number of years of Government "takeovers" in producing areas, and that experience has shown that without exception the same or other Western producing companies have been invited to return or to continue to supply services that are required in these countries. To be sure, the companies have not retained access to all of the crude they once had, and the profitability has been less than before, as I already indicated. Nonetheless, the fact that the Western companies are needed to play a role in the exploration, producing, and transporting petroleum is an important one for us to understand in trying to asses the future. Let me state the point more categorically.

Those who direct the affairs of most OPEC Governments have no doubt that in their self-interest it is desirable to retain the services of integrated Western oil companies and pay them—in cash and in access to crude oil—to retain those services into the indefinite future. It is important to understand, moreover, that while our profits are less than formerly, the vast majority—if not all—of the new capital will be provided by the countries and thus relieve the companies of the carrying cost and risks of those investments.

By the same token, there is also emerging an understanding among the OPEC countries that the companies with the large diverse markets for a variety of types of crude are logical purchasers of crude oil which the OPEC countries have to sell. There are literally hundreds of types of crude oil varying from the very heavy, high-sulfur Eocene crude

produced in the neutral zone between Saudi Arabia and Kuwait to light, sweet, high-gravity Nigerian crude which yields a large gasoline fraction. Since the demand pattern in the different areas around the world is by no means similar, the international companies have for a long time been able to direct the crude oils which are most economic in terms of yield pattern to those countries that can best use the types of products that crude oil will produce.

Thus, for example, the markets in Australia and the United States are heavily oriented towards gasoline, while many of the industrialized countries in northwest Europe and Japan require large quantities of heavy fuel oil. The typical U.S. refinery produces a very high yield of gasoline and distillate—the so-called "light ends"—from a barrel of crude oil—about 80 percent—whereas in Japan the refinery yield pattern is 45–50 percent heavy fuel oil. In addition, about 60 percent of the refining capacity in the Unite States has been specifically constructed to run on sweet—low-sulfur—crudes, and therefore cannot use high-sulfur crude oil; whereas much of the crude oil in the Middle East is high sulfur.

If the U.S. multinationals were to disappear from the scene for whatever reason, the foreign multinationals—many of them government-supported and subsidized—could be expected to step into our shoes before they scarcely cooled to provide the services we had offered. Such a development would be contrary to the interests of the United States, but probably would be of less longrun concern to OPEC; the world's oil demand would still be there and non-U.S. companies would be dealing with OPEC. How secure will the United States feel when it has to acquire oil directly from foreign governments or foreign multinationals? The International Energy Agency has designed an allocation system that relies on the major oil companies for its implementation; how will this system work if there are no major U.S. multinationals?

Destroying the U.S. oil industry will scarcely contribute to the need to find the new oil that we believe still exists in quantity overseas, both inside the OPEC countries and outside them. Can the U.S. Government play the role that U.S. companies are now performing in vast exploration efforts around the world? Destroying the incentive or opportunity to explore for additional supplies will only result in our becoming increasingly dependent on OPEC.

Much of the constructive concern in the United States over our relations with the OPEC countries stems from our undue dependence upon these foreign powers for our future energy resources. I believe such concern is justified. What steps, therefore, can we take to improve U.S. self-sufficiency? Domestic crude production is falling. Increased coal production is hampered by the combination of economic uncertainties and environmental restrictions. Similarly, growth of nuclear power has been dramatically slowed down. Those who oppose increasing our energy supplies offer only conservation as an alternative. While we oppose waste, and favor conservation, conservation alone cannot do the job. I would like to outline what I believe are the constructive steps the United States should take in energy matters.

First, it seems obvious to me that we have what is a scarcity of deliverability of energy in this country, and not a scarcity of basic energy

resources. Consequently, we must with all deliberate haste reach a consensus on the way in which we will utilize—with appropriate safeguards—the strengths we have in coal and nuclear energy.

Second, on the matter of conservation, we must first define what is meant by conservation. Unfortunately, some who talk about conservation have motivations which have very little to do with meeting the energy needs of the American consumers.

They oppose all measures to increase supplies, and they believe that if there is less energy to consume, these limited supplies will then have to be allocated by ever-increasing prices or by gigantic governmental controls. Of course, we can and should be careful not to waste energy, and we can be a good deal more efficient in the ways in which we use energy—efforts to encourage such action must continue. But there are still a great many people in this country whose standard of living and working conditions are not adequate. In my view, developing additional supplies at the same time we eliminate waste of energy will avoid the inevitable confrontation associated with massive redistribution of energy among consumers, and will also avoid the Federal bureaucracy necessary to administer such a redistribution program.

Third, the United States will have to obtain increasing supplies of energy no matter what steps are taken to reduce our consumption levels. As the chart[1] attached to my statement indicates, American energy consumption will continue to grow even if we are able to cut our consumption levels to about one-half historical rates.

I think if we study the chart for just a moment, it will portray our problem. People talk about conservation, and we welcome all measures that will encourage conservation. But the fact remains that existing production will only decline, as we can see from the line called "production." And consumption will continue to grow, even if we assume that through higher prices and conservation we cut the growth rate by one-half—which is the lowest I have seen predicted by any of the energy studies.

There are only two ways of filling the gap, from U.S. resources, or from imports. I just think we have not had enough emphasis on the supply side of the equation. People have talked about conservation and have talked very little about increased supplies.

Quite apart from the need to supply growth in energy use, there is also the need to overcome the production decline which has been and will continue to be experienced from our domestic resources. As you can see from this chart, between now and 1986 we will need to obtain 2.8 MMB/D from new energy sources just to replace the amount by which our crude production from existing reserves will have declined by then.

Having said that, the question arises as to where these supplies will come from. Obviously, in the next few years we are going to be importing ever-increasing quantities of oil from overseas. Even if we take the most aggressive stance in utilization of coal and other energy sources, we will not be able to stem the tide of imports for a considerable period of time. While we are—and should be—uncomfortable with ever-increasing levels of imports, we should remind ourselves that major countries overseas have had an even larger dependence on im-

[1] See chart, p. 16.

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ports—in relative terms—for many years. Japan, for example, has little domestic energy and therefore no alternative to dependence on imported energy; the United States on the other hand has alternatives.

While the subject is not within the area your committee asked me to discuss, let me just complete my list of elements for a U.S. energy policy by saying that one of the ways that we can take some of the pressure off our import needs is to permit the domestic industry to explore vigorously in virgin areas offshore in the United States. There are signs that this effort is going forward, and for that I am grateful; but the delays have been costly to the American economy.

At the time when the United States felt affluent enough in energy matters to mark time with desultory debate, the countries surrounding the North Sea have fostered the most massive exploration and development investments this industry has ever seen, even under the most onerous physical operating conditions, with the result that the United Kingdom is within sight of being self-sufficient in oil, for the first time in its history, and Norway can look forward to being an exporter of some importance. There are lessons to be learned from these examples, and I trust that we will not have to learn them too late.

In summary, I believe the best policy for the Government is to encourage the development of domestic energy resources and at the same time to support the American companies overseas; at least until we redress our overdependence on foreign oil, we must turn to overseas sources.

I think the U.S. Government should support the American companies as other governments support their companies; destroying the U.S. industry will only bring harm to the consuming countries and ultimately to the United States itself. Let me say bluntly that I believe the American companies overseas represent a great strength to the American economy and to the American Government. If you do not agree with me, I would suggest that you talk with some of the governments overseas to get their views; many of them have struggled for years to try to secure a position which is only a fraction of that enjoyed by our American companies. The American companies, if properly supported, should be able to continue to secure the supplies which America will need to import and to do so at the best price available.

It is my belief that the American companies have accomplished much, and so I'm happy to have played some part in those accomplishments.

Thank you. I shall be pleased to try to answer any questions you might have.

Chairman KENNEDY. Thank you very much.

[The table and chart attached to Mr. Tavoulareas' statement follow:]

COMPANY MARGINS ON ARAB LIGHT CRUDE, 1948-75

[Dollars per barrel]

	Posted price	Sales price to affiliate[1]	Average Government take	Operating cost	Company margin[2]
Date:					
1948			0.21	0.27	1.56
1951	1.75	1.75	.58	.27	.90
1965	1.80	1.49	.92	.10	.47
1971—Teheran (February)	2.18	1.85	1.26	.11	.48
1972—Geneva (January)	2.48	1.95	1.44	.11	.40
1973—Geneva (April)	2.74	2.30	1.69	.13	.48
1973—Kuwait (October)	5.12	3.65	3.40	.13	.12
1974—Kuwait (January)	11.65	9.00	[3]9.18	.17	(.35)
1974—Kuwait (March)	11.65	9.50	9.18	.17	.15
1975—Kuwait (January)	11.25	10.46	9.95	.29	.22
1975—Kuwait (October)	12.38	11.51	10.98	.29	.24

[1] This figure would vary by company and transaction.
[2] Before United States taxes, if any.
[3] Government participation and take increased retroactive to Jan. 1.

Note.—Averaged over equity and buy-back crude from 1973 onwards.

U.S. OIL CONSUMPTION AND SUPPLY

MILLIONS OF BARRELS A DAY

30
25
20
15
10
5
0

CONSUMPTION

CONSUMPTION AT 2% GROWTH RATE (1/2 HISTORIC RATE)

THE GAP

PRODUCTION

PRODUCTION FROM 1966 EXISTING FIELDS

PRODUCTION FROM 1976 EXISTING FIELDS (INCL. NORTH SLOPE)

HISTORICAL

FUTURE

1966 1976 1986

Chairman KENNEDY. We are going to follow the 10-minute rule for questions that we follow in the full committee.

I am interested in your final comment and statement about the relationship between the companies themselves and American policy. I suppose one of the key questions which we have to consider is

whether the companies are representing just the stockholders, or really looking at the interests of the consumers, whether these are parallel or divergent interests. No doubt, they are representing and trying to carry through the best interests of the stockholders. But we also recognize that this is a national energy issue, and we are trying to fashion a national energy policy that will have many implications in terms of our whole economic strength, and the role of the United States in the international economy. What we do here has obvious implications for many other nations. I hope to come back and get some impressions of you on that issue.

Can we get to a matter about which I am sure you can be very helpful, and that is the increase in the cost of marker crude. We saw in the results of the Bali conference that there wasn't any increase, and someone pointed out that it was basically an inability to settle their differences over price differentials, and they never really got down to the hard bargaining, or decisionmaking on the marker crude.

What do you expect to happen in the market by the end of this year?

Mr. TAVOULAREAS. You mean in the marketplace regarding the crude price?

Chairman KENNEDY. Yes.

Mr. TAVOULAREAS. Well, I do not expect any more action by OPEC toward the end of this year.

Chairman KENNEDY. And then what do you see, how long will there be price stability, now?

Mr. TAVOULAREAS. I think, if you read King Khalid's statement very closely, I believe what you can look for in the future is price increases which are parallel to inflationary trends.

Chairman KENNEDY. As principal executive officer of one of the major and successful oil companies in the world, what are your own views, or projections over the period, let's say, of the next year, or next 2 years, in terms of increased costs?

Mr. TAVOULAREAS. Increased cost of crude, as I said, I think will follow inflationary trends.

Chairman KENNEDY. Well, inflationary, basically those of the United States of 6 to 7 percent?

Mr. TAVOULAREAS. I think inflation for the goods they buy from the free world.

Chairman KENNEDY. Well, of course, that is such a variable, isn't it? I mean, obviously food products are different from arms and all the rest. Can you define it any further, I mean, is it 5 to 10 percent?

Mr. TAVOULAREAS. I could not guess what the inflationary trend is going to be.

Chairman KENNEDY. But you are making decisions, over the next year or 2 years, that it will be basically—a ball park figure—the basic inflationary, international inflationary increase.

Mr. TAVOULAREAS. If I had to make a guess, that is the guess I would make. I hope that does not happen, I hope it will stay still for a while because they have increased so rapidly a few years ago.

Chairman KENNEDY. But that is what you basically assume, as far as your own personal view as a person who has had a great deal of experience.

Mr. TAVOULAREAS. Over a period of time, I think that is what we ought to assume.

Chairman KENNEDY. Let me turn to another area of enormous interest, I am sure, in terms of all the consumers, and particularly all Americans who are very much interested in the stability in the Middle East, and who are also trying to achieve some resolution of that complex and difficult issue.

If there should be a deterioration there, and if there would be an embargo, are we better off now to deal with that effectively as we were, say, in 1973, or not?

Mr. TAVOULAREAS. I think we are worse off because we are more dependent on foreign imports, much more dependent on Arab oil than we were in 1973.

Chairman KENNEDY. Do you have any doubt, if there was an active hostility in the Middle East, that there would be a resumption of the embargo?

Mr. TAVOULAREAS. I would not really know. There was the recent statement made by Saudi Arabian officials to the effect that an embargo may not ever be used again, and need not be used even if there was a war.

Chairman KENNEDY. What do you think?

Mr. TAVOULAREAS. I really don't know. I could argue both ways. I hope it is never used again.

Chairman KENNEDY. Is that generally the feeling in the industry?

Mr. TAVOULAREAS. I hope it is. Let me say something about price, sometimes it is not good to express an opinion publicly, because they may take it as a floor for a price increase.

Chairman KENNEDY. We appreciate that, but I think we appreciate your candor, as well, and want to thank you for it.

But your own view is, if there were to be an embargo, as far as the American economy, you feel that we may very well be, given the figures of imports, the percentages, perhaps more vulnerable now.

Mr. TAVOULAREAS. The whole world is more vulnerable now than it was in 1973.

Chairman KENNEDY. Even with the actions that have been taken by the Congress in terms of strategic reserves, and all the rest.

Mr. TAVOULAREAS. I think we have had a lot of action, but I don't see one additional barrel of supply resulting from that action. We have got to get additional energy resources developed. We have got to show OPEC that we are serious about our energy problems. I do not believe we have to wait until the day we develop self-sufficiency to have a better bargaining position. I think if the OPEC countries see that we are serious about solving our energy problems long before we actually solve them, we will see some amelioration in their actions.

Chairman KENNEDY. What is your impression, do you think that they are impressed with what steps have been taken, or not so impressed, or very little impressed?

Mr. TAVOULAREAS. Very little impressed. They kid and needle us about, "What are you doing about the environmentalists lately; what are you doing about the Congress, they don't like you fellows very much, do they?"

So, they needle us constantly. They are very clever. They are not impressed with what the United States has done in the energy field.

Chairman KENNEDY. What about the IEA, has that made any difference with regards to an embargo?

Mr. TAVOULAREAS. This is a subject on which I am sure a lot of people would disagree. Some look upon IEA as a means of confrontation. In the last war the oil companies quietly were able to allocate supplies in an equitable manner, and we have been congratulated by the Government committee and by the EEC committee.

I, myself, would still prefer that method in the future. I think when you create a force which becomes a focal point for confrontation, you are more apt to get confrontation. I have had this view for some time. Just this last week I read the communiques from Indonesia, and that was one of the items they referred to, saying, "We still have to deal with the consuming countries trying to confront us."

I am not arguing whether there is going to be a confrontation or not, but if you have a confrontation, you had better have the leverage to carry it through. They have the supplies.

Chairman KENNEDY. Let me ask you, moving quickly to another subject, what amount of your foreign investment is invested, just approximately, in OPEC countries?

Mr. TAVOULAREAS. Oh, my goodness, I will try to get that figure, I don't have it with me.

Chairman KENNEDY. Just approximately.

Mr. TAVOULAREAS. Well, right now it is a very small figure because little by little we have taken our investment out; I would say certainly less than 10 percent.

Chairman KENNEDY. You can supply that for the record. The point I am trying to get at is, what is invested in OPEC, and what is invested in non-OPEC countries.

Mr. TAVOULAREAS. We will give you that figure.[1]

Chairman KENNEDY. Would you say as a general policy matter that most of the investment of the major companies is in the OPEC countries, rather than non-OPEC?

Mr. TAVOULAREAS. Oh, no, a very small investment of the major companies is in the OPEC countries. As I referred to in my statement, we were developing a barrel of oil in the Middle East for as low as $300 a daily barrel, where we spent as much as $6,000 per daily barrel to develop refining and marketing assets in Europe—$6,000 per daily barrel. So, there is no comparison of what we spent in downstream facilities versus what we spent in OPEC countries.

Chairman KENNEDY. Well, where are you drilling, are you drilling in OPEC?

Mr. TAVOULAREAS. Well, as a consortium we are drilling in and out of OPEC. We are drilling around the world. I think we will continue to drill, hope to create surpluses; that is one of the better means we have of alleviating demands for higher prices. I think we should continue to drill, continue to explore.

Chairman KENNEDY. On the question about where these decisions are made, is it a conscious decision, a corporate decision, that you are going to do so in OPEC countries, or are you going to slant it over in non-OPEC countries?

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[1] See response of Mr. Tavoulareas to additional written questions posed by Chairman Kennedy, beginning on p .70.

Mr. TAVOULAREAS. We drill in both areas. We are constantly drilling in both areas.

Chairman KENNEDY. Are there any incentives for drilling in the non-OPEC, should there be more incentives for drilling in non-OPEC areas, do you believe? Have you given any thought to that?

Mr. TAVOULAREAS. As you know, there has been a tremendous effort in the North Sea; Alaska and the North Sea are the two largest investments outside the OPEC area. When the British Government finishes with its demand for participation, I will give you an idea how great the incentive is. Certainly, the incentive to secure supplies outside the OPEC area is very great; we think it is good to drill outside the OPEC area, as well as inside.

Can I just make one other statement, Senator? You said in your opening statement that sometimes the interests of our stockholders and the consumers will conflict. I must say, I don't know how different companies operate at their board level, but I don't think they are too different from us.

We realize that we are not in business for a day. If we don't meet the long term needs of the consumers, we won't meet the needs of our stockholders. I don't find any conflict there.

Chairman KENNEDY. I suppose you would have to ask in terms of American consumers, they begin to wonder, when a major oil company has as much going overseas as they do—what kind of an incentive do they have for trying to see a control of price overseas when they know the international price is going up, there is going to be that much greater profit here at home?

Mr. TAVOULAREAS. I would like to answer that question.

Chairman KENNEDY. All right. And this goes back to the question of whether you are really representing stockholders in this, or the consumers.

Mr. TAVOULAREAS. Well, let me tell you what happens. We welcomed the action last week of OPEC to freeze prices. We would welcome even more action by OPEC to lower prices. Now, that is just a fact. We have been accused of not wanting that, but in our board meeting last week when we got the word that OPEC had frozen the price, we were very thankful.

Now, it is wrong to think that we can just ever pass on to the consumer the ever-increasing price, we never assume that. A part of the strategy of a business organization is to keep its cost down all the time, and OPEC taxes are only one element of cost.

So, even, let's assume on the small production in the United States you would make more money, if we had no price controls, but just think of the volumes that come from the OPEC area, on which you would make more, by having lower prices.

So, even to figure the economics out, I would rather see lower prices, not higher prices. I know others say the opposite, but it's just not true.

Chairman KENNEDY. Senator Javits.

Senator JAVITS. Mr. Tavoulareas, you say in your statement, "Destroying the U.S. oil industry will scarcely contribute to the need to find the new oil that we believe still exists in quantity overseas, both inside the OPEC countries and outside them. Can the U.S. Government

play the role that U.S. companies are now performing in vast exploration efforts around the world?"

Now, do you conceive of the divestiture effort as being one which would destory the U.S. oil industry, and if so, why; bearing in mind that divestiture is simply expected to divide production from refining and marketing, so that a company like your own would, let us say, by distribution with security holders, still retain the effectiveness of the three major branches of your business.

Why would divestiture destroy the U.S. oil industry?

Mr. TAVOULAREAS. Well, let me first go to the first part of your question. I referred before to the need to continually drill, and continually find more reserves, even though we take great political risks around the world. I am a great believer that the best way to improve our negotiating position is not by fighting to divide up the existing pie, which a lot of the proposals are—such as how do we get into Aramco, how do we get into Iran?

The answer is that we want to do more exploration around the world—create more surplus—the more the surplus is the better chance we have of lowering prices.

Now, when we find oil, oil has to go some place. We go into the OPEC countries, and they want us to supply some services. They want us to explore, they want us to develop oil. In exchange for that they give us access to oil.

Now, if the United States said, "Well, we don't really care for you, 'Mr. Producing Company,' to operate in Saudi Arabia if you have production—let somebody else go over and buy oil." The foreign producing countries will then turn to a non-U.S. company that is not broken up, and they deal with him; they give him oil supplies. So, if in exchange for our providing service in a producing country they will give us access to oil, why do we want to give up that access to oil—when we want it for our markets? If you start separating us into different parts, we will have no market that we will need oil for. So, there will be plenty of European companies, or Japanese companies that will take over that role.

Senator JAVITS. Well, when you say, "We have no markets that we provide oil for," one of the wonders of the recent recession was why Mobil invested invested $800 million in Marcor, instead of investing it and finding more oil, or some other form of energy production. Now, if Mobil sought to diversify their operations in Marcor, then owning a retail operation implies that you don't make everything you sell, you don't get it out of the ground, you don't make it on a sewing machine, you buy it from others.

So, if your company considered it good business to be an independent operator and buy from others in order to sell to consumers in the retail field, why wouldn't it feel the same way about oil? You would be getting the oil, you are confident of customers as Americans are using millions of barrels a day, and there will be companies—including a part of your own—who will be in the refining and selling business. What is the difference?

Mr. TAVOULAREAS. There was a time when the major parts of our profits already were in the producing end of our business, and that shifted to where more of our profits come from refining and marketing, in the last couple of years.

We had to build platforms in the North Sea. The first platform we built cost about $350 million, and the second platform, it looks like, will cost double that amount of money. We are able, now, to use the cash flow from our entire corporation to develop that oil, and when we develop that oil, the world has more supplies.

If you break us into small oil companies, who is going to be able to handle the $350 million, $700 million platforms?

Now, as to Marcor, if I may say, there are two aspects to Marcor. First of all, not one opportunity in the United States to look for oil was turned down because we needed $800 million for Marcor. So, I can assure you that no money was diverted from the search for oil in the United States because of Marcor. I sit on the board, and I can tell you that is a fact. As a matter of fact, in terms of bonuses on offshore between 1970 and 1975, Mobil outbid the whole industry. So, you can see that we did not take money away from the oil side.

On the other hand, I must say, if you read the amount of bills in Congress, including divestiture, that want to break us up, there is even more reason in the future to look for Marcors.

If we have a limited opportunity to find oil, and then even with that limited opportunity, we are going also to be broken up into little pieces, I would say those attacks would make one look more toward diversification.

Senator JAVITS. As a practical matter, having little experience in the oil field myself, it is a fact, is it not, that you don't generate investment capital solely out of earnings and cash flow, you depend enormously upon capital markets; you depend enormously upon joint ventures, just as you have in Aramco. Isn't that true?

Mr. TAVOULAREAS. That's true.

Senator JAVITS. See, frankly, I am asking you these provocative questions because they are the questions before the Congress. We are neutral.

Mr. TAVOULAREAS. We appreciate that.

Senator JAVITS. I am neutral on divestiture, and I would like to know why. The more information you give us on that score the better as far as I'm concerned.

I would like to ask you just one other thing, which relates to your statement, where you say what you think we ought to do. You say, "While the subject is not within the area your committee asked me to discuss, let me just complete my list of elements for a U.S. energy policy by saying that one of the ways that we can take some of the pressure off our import needs is to permit the domestic industry to explore vigorously in virgin areas offshore in the United States."

Now, are we doing anything to prevent you, or keep you, or inhibit you, or limit you in virgin areas offshore the United States and if so, what is it?

Mr. TAVOULAREAS. Well, the only way we can drill in offshore areas is for the Federal Government, or in some instances the State governments, to put up the acreage. The acreage has been very slow coming on the market. There are constant debates, constant lawsuits, and constant delays; some unbelievable—some very necessary—others not so necessary—restrictions on where the pipeline will go—where you will put that refinery if you do drill offshore—so, we have been slowed

down by the pace at which acreage is being put up and by the amount of environmental restrictions that are put on operations. A good example has been Alaska. We all think a certain amount of environmental restrictions is great, but I think that Alaska is a good case where we went far and lost a lot of energy for a lot of years for the United States. If we had the energy in 1973, as we were supposed to have it, I think we may have had a different situation during the embargo.

Senator JAVITS. I must say, I like very much the part in your testimony about the fact that the first indication of a break in our need will cause OPEC prices to come down, and they will come down, probably, very sharply. That's why I am so hot for conservation because it would be easy, direct and immediate, except for the disposition of our people and the unbelievable complacency of our Government.

But the U.S. authorities argue that when they put up "virgin areas" the bids don't come in. In other words, the oil companies are not coming through with the kinds of bids which the United States has a right to expect, if the oil companies consider these virgin offshore areas their best opportunity.

Mr. TAVOULAREAS. Well, first of all, there is now a question of somebody asking what is the right value for a block?

Senator JAVITS. Right. Whether the bids are commensurate with the value.

Mr. TAVOULAREAS. Recently, in the Gulf of Alaska, there were bids as high as $60 million in completely virgin territory, where only one well was drilled, I think at a cost of $11 to $14 million, and abandoned at 5,000 feet. It is an area of tremendous tides and disruption, much worse than the North Sea; and we saw bids of $7 or $8 million being rejected. I question that kind of action, I really do. If we get oil out of the Gulf of Alaska within 7 or 8 years, I will be very surprised.

So, to say now, "I don't think this bid was high enough," or "This bid is high enough," when you put it out to the industry and they all bid competitively, they can't bid together, who is the God that says that wasn't the right price? I think the prices were surprisingly high for that territory in Alaska.

Senator JAVITS. My time is up. Thank you very much, Mr. Chairman.

Mr. TAVOULAREAS. We bid $250 million in the Gulf of Mexico, it was dry; this is what happens.

Chairman KENNEDY. Congressman Hamilton.

Representative HAMILTON. I would be interested, sir, in your impressions of the present administration policy with regard to the price of crude oil in international markets. Are you, for example, under the impression that the present administration policy is trying to create any downward pressure on those prices; or are you under the impression that they want upward pressure, or they are not entering into it in any way?

Mr. TAVOULAREAS. I think the statements by the President and the head of the Energy Agency, and Secretary Simon, all applauding OPEC's action in keeping prices down together with the earlier statements that they saw no need for a continual increase in crude prices—

I believe from conversations with certain OPEC countries—I am not privy to—have all made it pretty clear that the United States does not really want higher prices.

Representative HAMILTON. Are you under the impression that the administration is taking any steps, other than these statements that you mentioned, to create pressure downward?

Mr. TAVOULAREAS. Well, let me say, when you say "pressure" it is hard to understand in what area you mean. I don't know what pressure the U.S. Government—can apply—I am not talking about military pressure—I don't get into the political field—what economic pressure the U.S. Government could bring on OPEC that would force them to bring prices down. I wish I knew what it was, I don't know. OPEC has the reserves.

Representative HAMILTON. So, you are not aware of any steps being taken by the U.S. Government, indeed, you don't even see any possible steps that the Government can take to create downward pressure. Is my impression correct of your perception?

Mr. TAVOULAREAS. Other than persuasion and talking, I honestly don't know of anything they could do to the OPEC countries.

Representative HAMILTON. You really do not negotiate with OPEC on price at all, do you, you just accept the price they set.

Mr. TAVOULAREAS. Well, we have had some conversation with some of their people, explaining to them why prices are too high, and telling them that raising prices four times in 1 year was a disaster to the free world, and in the last analysis not good for them. We have all these conversations, but they are just conversation; we have nothing to do with setting the price, they set the price.

Representative HAMILTON. Let me ask you, do you view the interest of the U.S. oil companies, and the interest of the Government in dealing with OPEC countries as being totally convergent? Is there any real difference between those two interests?

Mr. TAVOULAREAS. I see our association with the OPEC countries and producers around the world really in three parts. One is providing services. I see nothing about providing services that is inconsistent with U.S. Government interests.

The second is to try and get the lowest price possible. Now that they set prices, what can we do except explain to them why the price is too high, why it is not justified, and what it is doing to the free world.

Representative HAMILTON. Would not the Government's interests, which are broader than the economic interests at this point be able to be of some assistance? For example, we sell many arms to the Middle East and OPEC countries. Cannot there be a linkage with regard to their desire for American military equipment, and our desire for access and lower prices on oil? Obviously, you cannot assert that interest, but perhaps if the American Government were involved in some way, perhaps it could be asserted.

Mr. TAVOULAREAS. I guess I am not qualified to answer in that regard, whether you want to use military equipment sales to see if you can bring about a price decrease. I have some doubt you could, but I am not qualified to answer in that area.

Representative HAMILTON. Should the Government, or would it be helpful for the Congress to require access to information on the negotiations that occur between you and OPEC?

Mr. TAVOULAREAS. We report to the Government after each large negotiating session, both to the State Department and the Treasury, and tell then what the negotiations are about. We have no problems with access to the information on negotiations we participate in.

Representative HAMILTON. Do you see any role for the Government to play in these negotiations at all?

Mr. TAVOULAREAS. Well, I would say in the areas I spoke about, price and volume and services, I really see no role they could play.

Representative HAMILTON. You have an interesting statement at the end of your statement which says, "I think the U.S. Government should support the American companies as other governments support their companies."

What, specifically, do you have in mind there? Are you under the impression that the U.S. Government ought to be taking a lot of steps which we are now not taking, and which other governments do take to support the oil industry in those countries?

Mr. TAVOULAREAS. Maybe I can best illustrate this, when we go out to see various OPEC officials, in the last 2 or 3 years, they are very quick to tell us how much we are criticized by our own Government for our actions. Now, the criticism may be from newspaper accounts, it may be from an individual Member of Congress, rather than the Government. I would say we should get less criticism, and it should be confined to the areas where it is justified. At the least, I believe this is unwarranted and seriously undermines our negotiating position with those governments.

We are taunted with, "Even your own Government does not trust you," or "they think you conspired to do this."

The second point, in all fairness, is that we are being deluged with an excessive amount of legislation over the last few years, the like of which I have never seen; this does not help our negotiating position abroad.

We have all kinds of suggestions by various people as to how they are going to break the OPEC cartel. OPEC attributes these comments to the American Government and says, "Don't you tell them those things won't work."

"Well, we don't get involved in that," we explain to them.

I think if the American Government would realize that in the area of price and volume, and services, there is nothing inconsistent between our objectives and the American Government's objectives it would help. I think we have gotten an undue amount of criticism in the last 2 or 3 years, and it has hurt our negotiating posture tremendously. I think less unwarranted criticism would help tremendously abroad.

Representative HAMILTON. Would it help your negotiations with the OPEC countries if you had greater leeway from the Department of Justice to consult with other American oil companies?

Mr. TAVOULAREAS. Well, there is one area on which I would like to speak. Usually, when we are discussing matters with the OPEC governments, we are talking about things which can increase costs. Now, it is always put in terms of a "price negotiation," but it really is not a price negotiation, it is a cost negotiation.

Now, our attorneys are quite clear in telling us that this is not something that violates the antitrust laws. But there is enough doubt in this

area, enough people attacking us in that area that I wish the Government would come out more clearly.

I just don't believe the antitrust laws of the United States prohibit companies to get together to resist higher costs. And yet, we know a few years ago, when we got the clearance to meet in 1971 as a group, so we could negotiate against higher prices and have some kind of understanding with the companies that might have been nationalized unilaterally because they took a tough stand, we got criticism on the Hill and from the newspapers for getting together. All we were getting together for was to resist higher prices, higher costs.

Representative HAMILTON. One final question. In your statement you point out the fact that the declining company margins on profitability dropped rather dramatically from 1948 to 1975, do you expect now that that margin will level off?

Mr. TAVOULAREAS. Yes.

Representative HAMILTON. You don't expect any further erosion of it?

Mr. TAVOULAREAS. Oh, I think it will level off about the same level, and I hope it stays there long enough to see whether the countries that try to get a bargain—because some countries want to get less than that figure—will be satisfied with the services rendered. I actually think the figures should be higher, but that is the best we could ever negotiate with them. I expect it to stay at about that level.

Representative HAMILTON. Thank you very much, Mr. Chairman.

Chairman KENNEDY. Congressman Long.

Representative LONG. Mr. Tavoulareas, one of the things you know we are presently considering, particularly in the House of Representatives, is this Outer Continental Shelf legislation, which relates to the question that you were discussing with Senator Javits.

In my State of Louisiana we have a great deal of experience and luckily—I think luckily—we have had a minimum amount of environmental harm. There is no question but that it caused some dislocations in the environment, but some have been good and some have been bad. The recognition of the economic impact, negative economic impact that offshore development has to a State, I think, is finally being recognized by that legislation. Perhaps Louisiana and the other States that have developed this over a long period of time went about it the wrong way, asking to share in the proceeds of anything outside the 3-mile limit, rather than asking for a share of the additional expenses that are incurred by them. As you well know, Louisiana doesn't even get any sales tax on those items that are used outside the 3-mile limit.

This has caused us, contrary to what most people think, substantial economic harm over a long period of time. The Outer Continental Shelf legislation gives recognition to that problem, and in this regard I favor it.

On the other hand, the only thing that bothers me about it is that it is so long in coming. The other end of it, with respect to the protection of the environment in the setting forth of the different steps that have to be taken in order to get a permit to operate offshore, off the Continental Shelf, or on the Continental Shelf outside the 3-mile limit in most instances—you and I both know there are a couple exceptions to it, but only a couple—do you see this legislation as speeding up devel-

opment offshore, or is it likely to result in a delay of offshore production and exploration?

Mr. TAVOULAREAS. I just really do not know the specifics, I will have to ask one of my government relations people to give you their guess. We have heard it said a few times that some of the States have opposed the offshore because they have not gotten a share of the action. To the extent that they get a share and we can go ahead with offshore, I would say I would have to be in favor. To the extent that it imposes undue environmental restrictions on the method of operations, it would slow it down. Other than that I have no opinion, I guess I am not that close to it.

Representative LONG. I have about come to the conclusion, myself, it is one of those where it is impossible to say whether it will, in the long run, slow it down or speed it up. I think it is going to slow it down, in those States who are not doing it now, getting into it. They are going to be more reluctant unless something similar to this law is imposed. One, from an affirmative point of view, it gives them some money, and they look at that to push them forward a little bit toward participating; on the other hand, negatively, it gives them additional assured protection for the environment which is to some extent necessary. The degree is where the question comes in.

And, looking at it long range, if we do impose a law that the companies are not able to live with, it could in the long range end up in a considerable slowdown.

I am a little bit like you are, I have studied the legislation at some length; and I have been looking at the development off shore of Louisiana for a number of years.

Mr. TAVOULAREAS. Well, for example, there is one provision I believe in, the bill that the State will have to approve the operations offshore. You know, we have a national energy policy, but sometimes individual States don't think they have a problem. You have heard the arguments between New England and Louisiana, your State.

Representative LONG. You saw the bumper stickers during the shortage, or during the embargo, "Keep our gas in Louisiana and let the Yankee freeze."

Mr. TAVOULAREAS. Well, I just feel we have a national energy problem and the Federal Government should rule in this area. If we have a multitude of governments, we are bound to be slowed down.

Representative LONG. I am inclined to agree with you, I think it is a national problem and that too much State control adds another bureaucratic layer that ought not to be added to it.

Mr. TAVOULAREAS. That's about it.

Representative LONG. Two other minor points. In your statement you stressed the benefits that the United States-based oil companies give to the United States in securing needed oil supplies. If you continue, though, the development of offshore—not offshore but outside the continental United States, outside the offshore activity, the foreign, let's call it, the production facilities, refinery facilities, and all of the things that go with it, which as far as capital investment are concerned, are so very heavy, if those will continue to be built abroad, rather than in the United States, is this advantage to the United States because of the fact they are domestic companies, going to continue, or what

is going to be that torn conflict that comes between the profit motive of oil companies—which we well recognize—and the national interest?

Mr. TAVOULAREAS. Well, right now we got ourselves in the position where we are dependent on foreign supplies. I am very pragmatic in this area, I say, let's recognize that condition, let's work on that condition, let's try to increase our energy supplies and live with the facts as they exist overseas. What we want from overseas, in my opinion, is the maximum amount of security of support at the lowest possible price.

If the means of getting additional supplies is building refineries in producing areas, then I think that is something that helps our security of supply. That does not mean at all that in the meantime I would not be increasing our own energy resources—I don't think they are inconsistent.

But if a country says, "As a price of additional supplies I want you to help develop local refineries"—as we did in Venezuela 25 years ago—and then they want those refineries to operate in times of emergency, then we ought to have those operating, and I think that gives you a lot of security. I would like to have even better security, I would like to have secured crude supplies and have my refineries where I want them. That is not an alternative we have available.

I think these producing countries are telling you, "You will get more supplies if some of the refineries are in my area."

Representative LONG. After the final sale of the Aramco property in its entirety is concluded with the Saudi Government, what is going to be the relationship of Mobil with the other former parent companies, I think is the best way to describe them, that were the owners of Aramco; is this going to be something that is going to allow Aramco to play these companies off one against the other with respect to future negotiations of entitlement?

For example, also related to that could be Aramco coming and saying, "Look, we want to come in with you on the North Sea." Would you look at the first part of that problem, and the second part of it?

Mr. TAVOULAREAS. Well, on Aramco, whether the companies acquire the word "Aramco" or the Government, that has not yet been settled.

Representative LONG. I am not worried about the word.

Mr. TAVOULAREAS. I just want to explain it. So, there will still remain a company owned by the four companies. Whether it is an "Aramco," or a new "Aramco," is not important, is what you are saying. That company will operate in Saudi Arabia and acquire crude, and give it to its partners.

Now, if the Government all by itself wants to go into the North Sea with somebody, it is certainly free to do that, there is nothing inconsistent with that. But, there will be almost no change in the relationship between the four companies and Aramco, or a new Aramco.

Representative LONG. Well, let me restate the question, then. Let's say the Saudi Government, instead of Aramco.

Mr. TAVOULAREAS. Right.

Representative LONG. Let's rephrase my question, instead of the term "Aramco," which I merely used as a descriptive of the activity of the Saudi Arabian Government in its relationship with these companies that were previously the parent companies of Aramco.

Mr. TAVOULAREAS. All right. There will be a new relationship that will grow, it already has. They will still deal with Aramco as a group who will help explore in existing concessionaires and whatever new concessionaires the Government will give them from time to time.

Representative LONG. The secret there is, as a group; that is really the answer to my question, isn't it?

Mr. TAVOULAREAS. Completely aside from that, the Government is free to go with any one of the companies and deal with a different venture. As an example, we are negotiating with the Government to build a refinery at Yembu, on the Red Sea, we, Mobil, outside of Aramco. Another one of the companies is negotiating with the Government to build a petrochemical plant, another one of the four owner companies. There is nothing inconsistent about these two things.

The reason why it is important is because we see other internationals, foreign internationals willing to perform these roles, outside of Aramco.

Representative LONG. So, you would not really see any advantage of your sticking together and saying, "We will only deal with you as a group" because somebody else would come in and fill that void?

Mr. TAVOULAREAS. If we were to say, "We won't deal with you, Mr. Government," then we would have four, five companies bidding against us, some others that are glad to fill the gap.

Representative LONG. What if the Saudi Government told you they wanted to go in with you on the North Sea, what would be your attitude toward that?

Mr. TAVOULAREAS. I think if they want to help and put up the bonus money, I think we would have a favorable interest.

Representative LONG. That really gets into the question of the U.S. interest in the multinationals when they go with their expertise of moving with someone like the Saudi Arabian Government, which already has a hold on them, as they do, into another major growing productive capacity, doesn't it?

Mr. TAVOULAREAS. I don't think they have any interest to go to in the North Sea, but if they want to put up their part of the money, their part of the risk capital, I wouldn't say, "We won't deal with you."

Representative LONG. Well, I can see, as a business person, why you would make that decision, I can well recognize it. But that really points up the question that Senator Kennedy was raising about the position of you as a businessman and the president of a corporation that has a responsibility to its stockholders to make money, as distinguished from what our interest is as a national government in you enabling the Saudi Arabian Government, which does not have the expertise, to move from where they have a complete stranglehold into an area in which they are not now operative, and in which they could become a major factor.

Mr. TAVOULAREAS. Well, the Government is encouraging all kinds of companies in Iran and Saudi Arabia, and other countries, to go out and help them in areas where they don't have expertise, today. We see a tremendous amount of people passing through Iran and Arabia to help in areas where they don't have expertise. The U.S. Government is now encouraging just that.

Representative LONG. Thank you, Mr. Chairman.

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Chairman KENNEDY. Senator Percy.

Mr. TAVOULAREAS. I mean, there was a large economic aid program just signed between Secretary Simon and the Saudi Arabian Government covering this area.

Representative LONG. I think there is one major difference, that we are dealing with a very critical material here in which there exists a shortage.

Chairman KENNEDY. The Chair recognizes Senator Percy. The Congress is going to meet in joint session with the King of Spain. We are going to have to recess the hearings early, and we have two more witnesses. I want to give Senator Percy a chance. We all have additional questions, and if it is agreeable with my colleagues, we will submit additional written questions to you.

Senator PERCY. Thank you very much, Mr. Chairman.

Because no one has anything good to say about oil companies these days, I would like to start on a happier note. I would like to point out that Senator Kennedy, Senator Javits, and I have been strong advocates of an agency for consumer advocacy, and we would all like to commend Mobil for the very forward looking position it has taken in this respect. We would also like to commend Mobil's affiliates, Marcor and Montgomery Ward, for the leadership they displayed in helping us shape sensible, reasonable, responsible legislation favoring the consumer.

My only question is: How could any responsible, good business be against an agency that does not regulate, but is simply a spokesman for the consumer interest in the free enterprise system?

Mr. TAVOULAREAS. Well, you know we favor it, and we were very quick to see the advantage of your bill. In all frankness, the people who jumped on us for endorsing the bill have said, "We have seen many agencies start with a very humble beginning, and then we see how they grow."

I think that has been the biggest objection, Senator, really. We saw the Federal Energy Administration say they would never have more than a 100 people at any one time working for them, and they were going to have a very simple method of allocation and price control—they have 4,000 people working for them. We have 200 people full time in Mobil working, answering their questions.

Senator PERCY. That is why Senator Javits and I worked together to end the Administration. Despite the administration's request for a 3-year extension we have gone to 15 months. Yesterday, the House changed their bill to 18 months. We appreciate your support there.

I would now like to ask you about conservation. Your company has emphasized conservation in some outstanding ads that have been in the best tradition of the American enterprise.

Do you think this country is doing enough in the area of conservation of petroleum products? We are now more dependent on outside sources than we were at the beginning of the crisis. We certainly rely more now on Arab-OPEC countries than we ever had in the history of the Nation, and these countries are obviously politically as well as economically motivated. Are we doing enough to conserve our own resources?

Mr. TAVOULAREAS. I am discouraged in terms that we have not done and are not doing more on conservation. I think we should do more.

On the other hand, conservation is not going to solve the problem we have. I want conservation and we should encourage it.

Senator PERCY. Well, it will help, certainly.

Mr. TAVOULAREAS. Yes; it will help, but unfortunately not very much—but it will help. Why do I say that? I showed a chart [1] before that had a 2-percent energy growth from 1976 to 1986. That percent was half the historical level and had in it a number of factors. That is basically the energy growth predicted by the Ford Foundation study which had in it all of the measures that Senator Kennedy has in his proposed bill—which is a good step in that direction—and many more stringent measures; and still, they only thought they could cut energy with higher prices, more stringent measures on conservation, they only could cut energy from 4 percent to 2 percent. And that is a magnitude, in that study, that I believe went further than the American people will accept, when you get down to it. I think it is very tough to impose legislation and follow up some of the hard things we have to do in this country to have more conservation.

So, I guess what I am saying is, I would keep all the pressure on conservation, but I would like to see some recognition for the need for more supplies.

Senator PERCY. Then, there are two possible solutions.

Mr. TAVOULAREAS. Right; both at the same time.

Senator PERCY. First, on conservation, Mobil supported the 55-mile-per-hour speed limit, and that is literally the only thing Congress did for a couple of years—that is the only thing we did. I traveled with the State highway police this weekend and saw what the citizen band radio does to even that small measure. But at least we have done that.

Now Senator Kennedy has introduced a bill, the Energy Conservation Act, S. 3424, to give an incentive for people, homeowners, small businesses, to insulate and protect themselves; to use less fuel; and to heat just the inside of their homes. In principle, is that the kind of measure, providing incentive for focusing attention on conserving fuel, that you think is worthy of adoption?

Mr. TAVOULAREAS. Yes.

Senator PERCY. Do you think that an attachment to the FEA extension, would be a logical way to move S. 3424 into legislation this year? Would it be in the national interest to have this Congress really do something that affects every homeowner, and virtually every American in a very concrete way?

Mr. TAVOULAREAS. In principle anything that will encourage conservation I endorse wholeheartedly.

Senator PERCY. Very good. Let's talk about the other end of that spectrum——

Chairman KENNEDY. Before you leave that point— [laughter].

Senator PERCY. Well, I've finished, Senator Kennedy. On your own time.

Mr. TAVOULAREAS. I guess I can't get away with that one.

Chairman KENNEDY. Could you try and do a little better than "principle"? [Laughter.]

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[1] See chart, p. 16.

Today you weren't going to be asked about that, but we have been meeting with some of the other companies, with Gulf, who attended the meetings. You could take a look at it. I think it does what you said. Perhaps we could get a response to it.

Mr. TAVOULAREAS. We will be glad to. Thank you very much, Senator.

Senator PERCY. I am not a cosponsor of the bill; but just as an interested person, looking objectively, I'd have to say it looks to be a very concrete thing.

Senator JAVITS. Let me just add, Senator, the House, at the same time it cut the FEA, cut the conservation fund by $37 million. That shows what I meant when I said——

Senator PERCY. That is why I think we have got to do something. We know the FEA extension bill is going to go over to the House, and we think it ought to go over with some conservation legislation in it. Everything we send ought to have conservation built into it.

I also agree that there is no way to develop supplies in our free enterprise society unless there is an incentive to do so. How do we develop the conditions that will attract more investment capital in the field of energy? I mean capital other than Government funds. We decided to pour Government money in through ERDA and other resources, but that can only be a catalyst. The real money has to come from the private sector.

How can we be assured that we have set up conditions attractive enough to bring in the capital, the technology, know-how and research that we desperately need?

Mr. TAVOULAREAS. Well, let me go back and talk about a couple of things, two things that aided the industry over a long period of time, and we got tremendous criticism for—and I am not trying to go back over history, but it did a job for this country. If you do a job for the country, it is very difficult to escape criticism.

We had all kinds of criticism about the import program. The import program was something which in effect held up the $3 a barrel of oil price in the United States. This was said to be an "undue profit," a "windfall," et cetera. I would like to see where we would be today if we had not had the import program. The same was true of depletion: Depletion gave the oil companies a break to produce energy for the U.S. people.

Somehow we have got to get ourselves to the point of adopting policies that are good for the people, and to be willing to withstand the criticism when in the interim somebody gets a break. So, what am I saying? If we are willing to pay foreign governments $13 a barrel for oil, I can't understand why we won't pay U.S. people $13 a barrel for oil, and hopefully thereby encourage other sources of energy, because we are not going to solve the problem in this country by oil alone. I wish we could—I just don't believe the oil is there. I wish it were. Maybe we will be surprised, maybe we will find another Middle East off the Atlantic coast, and then we will all be very happy—we ought to try.

But then, once we move from that, we have to give a price level and even subsidies—I know I'm right back where we started. In the last analysis, what are we trying to do? We are not trying to give companies profits, but we are trying to give the American people security of energy.

So, all the criticism we got from the import program, all the criticism we got on depletion, produced the oil at a very cheap price. For many years at a price lower than foreign oil, and for a handful of years at a price higher than foreign oil.

So, we have to take the very bold steps of seeing that we are going to help support these energy industries and see they get a fair rate of return. I don't know how you get from there to here. I really don't know how you get this kind of a bill through Congress, the administration, in political times. But, if you are going to try to solve the energy needs of the American people, we are going to have to face that kind of a problem.

Senator PERCY. Mr. Chairman, could I ask one last question on the whole issue of bribery and corruption on multinationals? Last week the Organization for Economic Cooperation and Development, the OECD, unveiled a code of ethics for multinational corporations, and a code of governmental responsibility to private firms. Has Mobil found it necessary to pay bribes, engage in kickbacks, give in to extortion in order to do business overseas? Has Mobil studied the OECD code, which I have so strongly advocated, and will Mobil support the OECD code and do everything it can to implement the code on an international basis?

We are not legislating morality for American business on one side and leaving the rest of the world out; we are advocating morality across the board. This is another form of pollution, and we in the free world must recognize that we have to get rid of it together.

Mr. TAVOULAREAS. Your question has two parts, and on the first part, we have made a reasonably thorough investigation, and we find that we have not had widespread bribery as a means of doing business abroad; we have not had to involve ourselves in that.

Every time someone told us they think something happened in a certain country we went into it in great depth, and we found ourselves to be free from anything that ever approached bribery.

Insofar as the code is concerned, I agree thoroughly that you cannot legislate international morality in one country, you have to get it done on a worldwide basis. So, I think this kind of a code warrants our support.

Senator PERCY. Thank you very much, Mr. Chairman.

Chairman KENNEDY. Very good.

I want to thank you very much for your statement and comments, and response to the questions. I think you have been very helpful, very useful, and candid. I think we have a number of other areas which we mentioned in my letter of invitation, which we really didn't get into, some of the things I mentioned in the opening statement, which we would really like to explore. We would like to submit those questions in writing to you for your response.

Mr. TAVOULAREAS. It will be our pleasure.

Senator JAVITS. I would like to, on behalf of the minority, join with the chairman; I think the answers have been very forthcoming, very helpful, and your testimony will be very useful.

Mr. TAVOULAREAS. Thank you very much, it was a pleasure and honor to appear here today.

Chairman KENNEDY. Thank you very, very much.

Mr. McAfee, our next witness, Jerry McAfee, was elected chairman and chief executive officer of Gulf Oil Corp. in January 1976. He had served as the chief executive officer of Gulf Oil Canada, Ltd., since September of 1969; and he has been with Gulf since 1945. In 1955 he was appointed vice president for engineering and refining development. Mr. McAfee was born and raised in Port Arthur, Tex.; he graduated from the University of Texas, and he has a degree in chemical engineering from MIT. We are glad to have you here.

Mr. McAfee, we welcome you. You have a rather extensive statement, I don't know how you would like to proceed. If you feel you could summarize it, it would be helpful to the committee. I think during the course of the earlier testimony, and during the exchange, you have probably detected the principal areas of interest of members of the committee. We want to give you a full opportunity, obviously, to have your views included in their entirety in the record. I will ask you how you would like to proceed.

STATEMENT OF JERRY McAFEE, CHAIRMAN OF THE BOARD, GULF OIL CORP., ACCOMPANIED BY JAMES E. LEE, PRESIDENT; C. L. CAMPBELL, SENIOR VICE PRESIDENT, GULF TRADING & TRANSPORTATION CO.; AND W. C. KING, DIRECTOR, CORPORATE POLICY ANALYSIS

Mr. McAfee. Thank you, Mr. Chairman. My statement is relatively brief. I will make it as concise as possible and respond to the committee's interest. I do believe it is a sufficiently important subject, though, Mr. Chairman, that deserves the time that is necessary.

Mr. Chairman and other distinguished members of the subcommittee, as has been pointed out, I am Jerry McAfee, chairman of the Gulf Oil Corp. Accompanying me here today are Mr. James E. Lee, president of the corporation, Mr. C. L. Campbell, who is senior vice president of Gulf Trading & Transportation Co., and Mr. W. C. King, director of corporate analysis.

We appreciate very much, Senator, the opportunity to present to the subcommittee our views regarding the international petroleum situation.

Specifically, the subcommittee chairman invited our response to a series of questions illustrative of the subcommittee's concerns. In order to respond clearly and briefly to the questions raised, I will endeavor to cover nine specific points as briefly as possible.

The first is our present relationship with the producing countries.

Gulf has access now to about 2 million barrels per day of foreign crude oil. Of this amount, one-fourth is derived from areas, such as Ecuador and Nigeria where Gulf continues to own investments, and one-half is purchased from governments of producing countries either directly or under "buy-back" agreements. The remaining one-quarter is acquired through so-called "third-party" purchases from other oil companies. Approximately 20 percent of Gulf's foreign crude oil acquisitions are imported directly into the United States. Gulf acquires crude oil originating in some 13 countries outside the United States, which allows us to handle selectively over 20 grades and types of crude oil.

All of our crude oil purchase agreements provide for a rapid phase-out of our purchase commitment if the seller's price is not competitive, and this is extremely important.

Our relationships in Kuwait and Venezuela are especially significant. Gulf now acquires from the Kuwait Government some 500,000 barrels of crude oil per day. We receive a nominal reduction from the official government price because of our traditional long-term relationship with that country and because of the large volume of our purchases. In Venezuela our crude oil and product off-take agreement requires us to purchase approximately 126,000 barrels per day and pay the price established by the Government. In the case of both countries, an agreement has been reached whereby we render technical services for a fee.

My second point is that Gulf operations do stimulate competition among producing countries. This is due to our large number of crude oil sources worldwide, our option of phasing down our contractual purchase obligations whenever the asking price is not competitive, and the competition we face from crude oil sources of other multinational oil companies. Gulf must always strive to obtain a competitive buying price if we are to survive as an international oil company.

The total volume of oil is determined by the needs of the consumer, who usually buys the lowest priced product available to him.

The third point is that an international oil company provides a mechanism for handling efficiently and selectively the various types and grades of crude oil. Because of our multiple crude sources and extensive facilities, we are equipped to supply the world's refineries the proper quantities and qualities to satisfy the many different regional processing, marketing, and ecological requirements.

Not all refineries are equipped to process the same grades and types of crude oils. For instance, Gulf's Philadelphia refinery has a capacity of close to 200,000 barrels per day and meets present air pollution standards when processing high-gravity, low-sulfur crude. Crudes coming from Venezuela and the Middle East are not appropriate feedstocks for this particular facility. However, crude oil coming from Nigeria is ideal for this refinery and, in fact, due to our supply source flexibility, we were able to run all of our domestic refineries at capacity during the 1973 embargo.

The point here is that an international petroleum company—as it has evolved—has the flexibility needed to satisfy the selective crude oil requirements of its customers and of its own refineries, as well as the particular product requirements of various countries and regions. It also has the capability to adjust deliveries to offset the frequent changes in crude oil availability and market demand due to factors such as operating problems, weather, accidents, strikes, or economic fluctuations. This capability minimizes supply disruptions and the cost increases associated with them.

The fourth point, Senator, relates to the proposal for creating a Federal entity to undertake Government-to-Government purchases of crude, the rationale being that this would provide some sort of collective strength in negotiating with producing countries for lower crude and product prices. To the contrary, we do not believe that such an entity would be able to simultaneously negotiate crude oil purchases from several producers, relate these to constantly changing transporta-

tion costs and varying refinery needs, make daily adjustments for operating problems, and still provide adequate petroleum supplies at competitive costs. In fact, Government-to-Government crude oil acquisition agreements have been tried by a number of oil importing countries without any particular success.

In addition, a multinational oil company is able to negotiate with producer countries on the basis of economic rather than political objectives. It would be difficult indeed to eliminate political considerations from oil negotiations between the U.S. Government and the Middle Eastern Governments. For example, it must be remembered that the arrived at price will be highly visible and there would be tremendous pressure within OPEC and from political elements within the exporting country to maintain set price levels.

In this context it is important to keep in mind that OPEC is not a cartel in the classic economic sense. It is not a business cartel, but a treaty among sovereign nations. The treaty is designed to protect a finite natural resource which is, for most OPEC countries, their major source of income.

The fifth point is the importance of proceeding expeditiously with the strategic petroleum reserve program authorized in the Energy Policy and Conservation Act of 1975. While such storage would not indefinitely offset the effects of an embargo, its existence could discourage some OPEC nations from supporting an embargo, and would provide the Nation time to make adjustments in its energy use patterns and avoid a sudden economic disruption.

The sixth point is the concern that the OPEC governments may seek to discourage the development of alternate energy sources, since these could weaken their monopoly position. Both the stated policies and the actions of these governments indicate the opposite to be true. At the recent Paris Conference on International Economic Cooperation, Saudi Arabia stated that it is "imperative the world recognize and begin to solve the problem of finding alternatives for depletable oil now." The commitment of the OPEC nations to alternate energy sources is real. Saudi Arabia has allocated funds for solar energy, Indonesia is developing its coal reserves, and Iran and Kuwait have initiated nuclear power programs. It could well be that by the time alternate energy sources can make an effective contribution to world energy supplies, the OPEC nations will have reached the point where their crude oil production has achieved the maximum attainable levels.

The seventh point concerns the so-called downstream ambitions of the producing countries.

In this regard we must distinguish between transportation on the one hand, and refining and marketing activities on the other. The OPEC countries are already committed to and involved in transportation of a portion of their crude and products to some of their markets. But I personally would not anticipate a major effort on the part of the producing countries as to marketing, or refining in consumer countries. There really is no current interest, we feel, in such ventures, largely due to their more immediate interest in developing their own domestic economic infrastructure.

The trend in the producing countries is to build refining and petrochemical capacity within their borders where they can provide employment for their nationals and maintain investment control.

These countries have some major obstacles to overcome, however, in regard to developing their own technological expertise. As a result, the additional capacity which emerges in the producing countries will not, we feel, be significant until the next decade.

The eight point relates to the misconception of a few that the major international oil companies provide an automatic prorationing mechanism for OPEC and that this enables them to maintain high prices. This misconception is wrong, and divestiture forced on the oil companies would only strengthen the producer governments' control of prices. An oil exporting government is in a relatively stronger position when negotiating with smaller companies with limited trading capabilities. An exporting government can afford to lose a small volume of business and thus is in a better position to demand a higher price from a small company. Such an exporter has a much more difficult time risking the loss of the larger volumes lifted by an international major, which is always a consideration because of the rapid phaseout options in present crude oil purchase contracts.

It is important to realize that the crude oil production rates in the OPEC countries are now entirely controlled by those governments. They unilaterally cut back production when they experience a surplus, as they had also previously done for conservation measures. An international major is able to adjust its individual operations when production is reduced so that such disruptions are neutralized before impacting on the supply availability to consumers. Such adjustments are possible since any single disruption usually involves volumes which are a minor portion of these handled by a major company, and which can reposition its extensive tanker fleet and adjust offtake rates in other locations or arrange exchanges. Such adjustments cannot be as readily effected by smaller companies.

To offset such disadvantages, the Japanese Government has initiated a program under which Japanese companies would consolidate into a smaller number of integrated companies. The proposed divestiture legislation would have no jurisdiction over such companies or over established international majors, such as British Petroleum, Royal Dutch Shell, CEP of France, and Belgium's Petrofina. The proposed legislation would have little impact on the existence or size of the international oil industry; it would merely prohibit American interests from utilizing the advantages accruing to large integrated trading entities.

The ninth and last point, Mr. Chairman, is this, how can we deal most effectively with foreign producer nations to satisfy our national energy requirements at the most reasonable price? That is what this hearing is all about.

Many recent studies released by our government and by the private sector recognize that the dependency of the United States and of most consumer nations, on OPEC produced crude oil, will increase over the next few years. Even with the advent of additional supplies from the Alaskan North Slope, the United States may succeed only in limiting its production decline. This will not offset our continuing increase in consumption. In fact, our consumption of OPEC crude oil has already increased almost 13 percent in the first quarter of this year over the 1975 level.

However, our country does have three important options open to it which could strengthen the Nation's position vis-a-vis OPEC.

One is that the United States and other consuming nations must eliminate the inefficient use of energy. In this respect, important progress is being made. For example, by the end of this year Gulf will have achieved 85 percent of its energy conservation target for refinery operations, at a capital cost of some $20 million; and 60 percent of its target for chemical operations, at a capital cost of some $23 million.

Another option is that the United States must develop its own considerable energy resource base to the extent that economics permit. The energy in our known coal reserves exceeds the energy in all of the Middle East's proven oil reserves. The United States has significant quantities of uranium and an important potential in solar energy. Our known resources of shale oil exceed our known reserves of oil and gas. Such an energy development program would have the compelling advantage of creating hundreds of thousands of new, permanent and well-paying jobs here at home.

Unfortunately, our progress in increasing production from these known and available resources has been essentially zero. This fact is not only recognized by the OPEC countries, but has been commented on by them. Our Nation's failure to increase its own energy production reinforces the OPEC determination and ability to maintain their prices.

The last option is to encourage development of energy resources in other consuming industrial and developing nations. This will both increase the world's oil supply and will help to offset OPEC's prominent, or preeminent position.

How effective we are in dealing with the OPEC countries will depend on our swiftness and effectiveness in exercising these three basic options, conservation, increased production of energy resources in the United States, and support for development of oil and gas resources outside the United States, especially in non-OPEC countries.

In summary then, Mr. Chairman, the oil importing nations will continue to be dependent on OPEC crude oil. Their only meaningful route to moderating this dependence and thereby to moderating price increases is to use energy more efficiently and to increase energy production significantly, particularly in the United States and other non-OPEC areas. In our judgment the OPEC nations will not discourage development of alternate energy sources, nor will their downstream activities be a problem to consumer nations over the next decade. The system of crude oil acquisition and distribution is dynamic, constantly changing and complex. As such, it is not readily handled on a government-to-government basis, but requires the flexibility and capability of many large international companies.

There is constant competition to deliver OPEC crude oil at the lowest achievable price. Divestiture of the American international oil companies would only serve to put the American consumer at a disadvantage in relation to the OPEC producers and to other consumers, and would leave the balance of the international oil industry intact in the form of European and Japanese companies.

Mr. Chairman, we appreciate the opportunity of meeting with the subcommittee this morning. We trust these remarks have been respon-

sive to the purpose of your deliberations and we will be happy to answer any questions you may have.

Thank you.

Chairman KENNEDY. Thank you very much, I appreciate your statement. Just a question on the OPEC price. Do you agree with Mr. Tavoulareas that future prices are likely to reflect just future inflation rates?

Mr. McAFEE. I agree with Mr. Tavoulareas, especially in the fact that it is extremely dangerous and undesirable to predict future prices, particularly when they are completely in the hands of entities over which we have no control whatsoever. I think undoubtedly there will be continuing pressure for OPEC prices to keep pace with inflation, yes.

Chairman KENNEDY. Do you make any judgment—I know you are reluctant to do so—but it is important for us to have some guidance and some counsel—what the likelihood is that OPEC would use this market power to exceed the inflation rate?

Mr. McAFEE. Undoubtedly they, in their judgment, will exercise that judgment to get the optimum return in their opinion for their product, oil. I simply would not want to predict whether they will exceed the rate of inflation. I would question that they would, frankly, personally, because I think they have taken a big leap forward and undoubtedly want to consolidate their positions for some time to come; but that is not to say they cannot do more.

Chairman KENNEDY. Are the companies themselves prepared to use their powers, the access to markets, to oppose increases in excess of the inflation rate?

Mr. McAFEE. We are using them, Senator, consistently and actively. That is one of the points we are trying to make in our statement, that really one of our big strengths here is our opportunity to move, and shift, and change as one country or one area or one grade of crude oil gets out of line, competitively, with others. Frankly, that is to my way of thinking one of the most effective ways in which we can keep some sort of a lid on OPEC crude prices around the world.

Chairman KENNEDY. Perhaps you could elaborate a bit on that, how you are able to do that, what changes, or what alterations you have been able to achieve in terms of pricing, or costs.

Mr. McAFEE. With your permission, Mr. Chairman, I wonder if I may call on my colleague, Mr. Campbell, who is very much involved in that end of the business and can be a little more specific than I.

Mr. CAMPBELL. Senator, I think if you go back over a 2-year period, you will find that there was an initial price differential between the light, sweet crudes and the heavier, residual fuel-producing crudes in the Persian Gulf. As the embargo came and the refinery runs were cut, it became apparent that people could run the heavier crudes and still meet their product-sulfur specifications. There was a massive shift between the early 1970's and the mid-1974 period to more sour crudes and away from the sweet crudes.

This position has reversed. There has been a tremendous change lately in the product pricing differential between residual and the lighter products, gasoline and home heating fuel; and over the last 6 months there has been a very massive move away from the heavier

crudes and back toward lighter crudes, again. The oil companies have been able to shift from one area to another and have changed this mix very dramatically.

Chairman KENNEDY. Well, have you ever indicated to any of the OPEC countries that you were not prepared to guarantee to buy in advance specific amounts of crude? I mean, how hard have you bargained, or been able to bargain; or do you think that you will be able to bargain more intensely, harder, or tougher if you did not have the feeling that the Justice Department was looking over your shoulder? How important would that be?

Mr. MCAFEE. Senator, you asked several questions. First of all, we have bargained extremely hard, and we have had considerable strength, to some extent, in the bargaining because we have been able to bargain, as I mentioned, in 13 different countries for 20 different grades of crude oil. We do have the ability to do acertain amount of trading off, both within our own system and outside.

As I mentioned, in all of our contracts we do have escape clauses which, if the price gets out of line in comparison with others, enable us to withdraw from the contract.

As to whether we could have bargained any harder, I know of no way we could have bargained any harder under the circumstances. Certainly, I am not aware in this particular area of any particular impairments that the antitrust laws imposed on us. Mr. Lee has been closely involved in some of these negotiations, and maybe he would like to add something.

Mr. LEE. I think there was a time, back in the very beginning of our negotiations with OPEC as an entity and we as an industry, when it served us well to sit together, and we did, as you are aware.

When it began to get to the point where the OPEC countries were going separate ways and they were no longer negotiating and moving as an entity, when one country was moving into participation ahead of another one, or when one country was moving into a complete takeover ahead of another, I do not see that it would have served any particularly useful purpose to have had any right to meet together as an industry once we reached that point where we were in effect negotiating with individual countries. I think the usefulness of that fell apart. I do think that there continues to be some usefulness if we had the right to trade information between companies as to what was happening on these negotiations. There has been a reluctance on our part, and on the part of other companies that are negotiating in individual countries, to bare our facts and figures, bare our chest, so to speak, to other companies from fear of some repercussions from that.

Other than exchange of information, though, at this point, I do not see any particular purpose being served by having the right to move together.

Chairman KENNEDY. Well, if the countries could not depend upon the downstream activities of the major oil companies, and if they were able to both exchange information and be able to work out some understandings, particularly in a number of countries such as Indonesia and Algeria, and other capital-short countries, Iran, perhaps, how do you know that you would not be able to get a better deal? What knowledge of the industry do you have that would indicate to us that you could not get a better deal? You have not been able to try it, have you?

Mr. McAFEE. Well, as has been pointed out, both in the previous testimony and in ours, the prices are set in today's world by the producing countries, and they are not negotiated prices, it is a matter of take it or leave it.

Our own negotiating position, really, is a matter of the degree to which we are able to leave it, in some cases.

Chairman KENNEDY. Well, why isn't that important, why don't we maximize it?

Mr. McAFEE. Well, we are doing our dead-level best every day of the week.

Chairman KENNEDY. Why not permit the companies themselves to get together and maximize their total market power to be able to be more effective, take some and leave others?

Mr. McAFEE. Well, as Mr. Lee points out, except for the exchange of information—one of the keys to this whole thing, Senator, continues to be competition, and I think part of the strength of our present situation is the competition which exists, not only as between purchasers and OPEC—producing countries—but between purchasers themselves.

One misconception that I might well straighten out here is that the purchasing of crude oil is today in the hands of a handful of major oil companies; that just is not true. There must be as many as 100 international oil companies trying to buy crude oil. Is that a fact, Mr. Campbell?

Mr. CAMPBELL. Yes; plus many small traders and people who essentially just operate out of an office with a telephone. So, there is a very large number of people in the market today.

Mr. McAFEE. And only something like 60 or 70 percent, maybe, of the total foreign crude oil traded is in the hands of the major companies, contrary to the popular misconception.

Frankly, I personally believe the competition which exists within the industry is a major, and very significant and very important factor in continuing to keep prices as low as they can realistically be.

Chairman KENNEDY. You are familiar with what Mr. Dorsey said in 1972, at least he was quoted as saying, "No reasonable deal can be made until the companies are willing to let governments try and sell their share of participation crude, without our assuming the obligation to buy back at inflated and irrational prices. Insistence on maintaining control of the crude has given strength to the OPEC position."

I am just wondering how his comments, or judgment about that particular approach differ from what you stated here. There seems to be a differing viewpoint expressed.

Mr. McAFEE. I don't quite see the difference, I don't see a problem. Would you care to comment on that, Mr. King?

Mr. KING. Mr. Chairman, that referred specifically to an era when we had two levels of crude pricing; we had the Government-owned crude, which was selling at their posted price, and we had equity crude, or the company-owned crude, which was selling at a lower price.

His point was that you could not maintain a viable market with two different price levels. That, of course, has ceased to exist. There is now only one price level, and we don't have that kind of dichotomy today that we had then.

Chairman KENNEDY. Well, the essential thrust of it seems to be that unless you bargain in a hard and in a tough way in terms of these factors, you are not going to really be able to come up with much of a result, that seems to be what he is talking about. "No reasonable deal can be made, let the governments try and sell without our assuming the obligation to buy back at inflated and irrational prices." That seems to be an impression of the spirit and the concept of negotiation.

I am just wondering whether there are ways and means of governmental action that we can increase those, you know, competitive aspects in terms of the marketplace.

Mr. LEE. May I, Mr. Chairman? I believe what he was referring to there was indeed what we thought the OPEC producing governments had at that time, a misconception of what oil was worth in the marketplace. I believe what he was saying was, the only way we are ever going to convince them that we are not getting as much for the oil as they think they are, let them go out and sell some themselves, then they will have the true facts of the market and not have to take our word for it.

Chairman KENNEDY. Senator Percy.

Senator PERCY. Mr. Chairman, I ask unanimous consent first to submit written questions in the interest of saving time. I will submit the same questions to all three of our witnesses and ask the record be held open for 2 weeks.

Mr. MCAFEE. We will be delighted to respond, Senator.

Senator PERCY. And I would like to commend you, Mr. Chairman, for the way these hearings have been conducted. By giving each of our witnesses the same questions we cover essentially the same grounds and save a lot of time in our questioning. The staff has done a good job in that regard.

The Chairman mentioned Mr. Dorsey, and you may be familiar with my past unhappy experience with Gulf and Mr. Dorsey. I conducted hearings before the Multinational Subcommittee of the Foreign Relations Committee for months, in executive session and in open session, with Mr. Dorsey on Gulf's problems.

Mr. MCAFEE. I am only generally familiar with that.

Senator PERCY. You might say, we are more responsible, along with your board, for your being here than anyone else.

Mr. MCAFEE. I don't know whether I want to thank you or not, Senator.

Senator PERCY. Pardon.

Mr. MCAFEE. I'm not sure whether I should thank you, or not. [Laughter.]

Senator PERCY. Well, I look forward to this new opportunity, to work with Gulf and its new management in a very constructive manner. I might say, and you can at least tell your board that Senator Kennedy and I gave up hearing the King of Spain in order to hear you. So we recognize the importance of your presence here this morning.

Mr. MCAFEE. I'm overwhelmed, Senator. Thank you. [Laughter.]

Senator PERCY. My first question, then—and only one question in this area—is addressed to the decision made by the Organization of Economic Cooperation and Development—OECD—to have a code of ethics and conduct among multinational corporations. Has Gulf

studied the OECD decision enough to know whether it supports this code?

Mr. McAFEE. In principle, Senator, we support them heartily. We have not had an opportunity to review the specific proposals in enough detail to be able to comment very specifically, but certainly in principle we are in hearty support. We feel very strongly that the same rules need to apply to all of us, all across the country and around the world, throughout all industries, not just the oil industry; not just multinational companies. It is a competitive world we live in, and we've got to play by the same rules if we are going to be able to play.

Having said that, though—and I mean it very sincerely—I mean equally heartily, equally strongly, and equally sincerely the fact that no rules, no regulations will solve our problem. There has to be a change in our attitude, our approach, and our way of life. We sincerely believe that some of the trauma we have gone through as a company and as an industry in recent years will stand us in good stead in putting our house in order, and conducting our affairs so in the future we will be more proud of them than sometimes in the past.

Senator PERCY. Well, I think that assurance is not only in the national interest, but in the interest of Gulf Oil. I think by having a clean house, looking at all of the procedures and practices of the past, and starting afresh, everybody in the corporation is going to benefit.

I would like to ask about pricing. What effect on Gulf's profit would it have made if the OPEC countries had decided to increase prices, say, 10 percent, instead of freezing them for the rest of the year? I realize there was no way for you to control the outcome of that conference, but what effect would it have had on the company, had there not been a price freeze?

Mr. McAFEE. Let me respond in my layman's sort of way, and then if my colleagues have a more specific answer, I ask them to contribute it.

My own feeling very strongly, Senator, it certainly would not have increased our profits $1; the chances are it would have reduced them. What has been talked about is an increase in the total price, and the total Government take; nobody has talked about any possibility of an increase in the oil companies' margin—that's where our "goody" is. In order to even get that margin, we have got to pass along the total increase in our raw material costs to our customers, internal customers, and external customers. The chances in today's market of being able to do that are extremely remote.

So, I have to say on balance that the probability was that an increase in OPEC oil prices would have hurt us, rather than helped us. Now, Mr. Lee, would you confirm, or deny, or change that?

Mr. LEE. I confirm that, and I would go even further and say, I have no doubt it would have reduced our income for the rest of the year. With our inventory accounting methods around the world, every time we have a change in price because the product prices don't move as rapidly, we suffer on the income side.

Senator PERCY. Well, I felt it important to ask that question because there is a general impression among the people of this country that when the price of oil increases it's not the OPEC countries who

are responsible, not the members of OPEC—it's those damned oil companies.

The illusion is that the oil companies are going to benefit by a price increase. When prices go up the oil companies take the rap, and I can't see that Gulf would have been able to realize profits from price increases. I can assure you, if any oil company had tried to benefit by such an OPEC decision, we would have been in there, we hope, swooping down on them.

From what I know of the pricing in the field, there was no way that you could benefit from higher oil prices, but you were going to take a lot of blame.

Now, it is in our national interest and also the policy of this administration and our Government to try to hold prices down. It is in our interest to create, if we can, all those conditions—by the creation of reservoirs, the creation of alternate sources of energy, and a consortium of cooperation between consuming nations—to put downward pressure on oil prices. In this particular case, were the oil companies able to work in the national interest, in accord with our national objective to help hold the price of oil down? Did they wield whatever degree of influence they could on the parties that were participating in this conference to keep prices at least frozen? Or did the oil companies just simply not play a role anymore and leave it to governments?

Mr. McAFEE. Well, not by choice, but by necessity. We were not part of the conference, we were not invited; and as far as I know we had no particular observers there of any status. We have no voice in that area.

The only thing we can do, really, short term, is to do the best job we can, using our flexibility to the best advantage; and long term do the things we talked about this morning: Conservation, improving our own domestic supplies, and improving supplies in other non-OPEC areas.

If I might inject this, Senator, we get it a good bit too, we share your impression—and it has been confirmed—that there is a popular misconception that an oil price increase is to the benefit of the oil companies. That simply is not true, and I am delighted, sir, to hear you confirm that it is not true, as well.

Senator PERCY. Well, I have been critical of oil companies——

Mr. McAFEE. I'm aware of it.

Senator PERCY [continuing]. In certain areas, as you well know. But I think it is very unfair to allow this myth to continue, that you can somehow damn the oil companies and you have found the source of the problem. That is not the problem at all. In fact when people try to tell me that, I say,

> Look, they are not the enemy, you are, and I am. We are consumers and we are just burning up too much of this. We have to find a way to tighten our own belts. We are the enemy in this particular field because we are just squandering and wasting our precious depleting reserves.

Mr. McAFEE. You are not the only one, Senator, we are all in this together.

Senator PERCY. Yes.

Mr. LEE. Excuse me, may I add one more thing on the pressures on OPEC to keep prices down?

I agree with Mr. McAfee that there is absolutely no input that we can make as oil companies. We do with individual countries point out

what we think are the true market situations relative to their individual laws; but beyond that we have no effect.

I think that probably the greatest influence can be brought by our own Government, Government representations to OPEC countries. By this I don't mean threats; that works in the opposite direction.

Senator PERCY. Reasoning.

Mr. LEE. Reasoning, and I think there has been some progress made in this regard. I think Saudi Arabia stood up and has responded.

Senator PERCY. That is my next question. I would like to ask if you would, Mr. McAfee, single out—even though you did not have observers there—you were watching the daily newspapers because you knew what effect it would have on the industry—which country really stood out and fought for a price freeze, and had the clout to carry it forward?

Mr. MCAFEE. We really have no inside information, Senator. You are quite right, we have been following the newspapers with a great deal of interest. Mr. Lee, do you or Mr. Campbell have anything to add?

Mr. LEE. I think the papers indicate that Saudi Arabia was the leading force in holding the price line, and I think pleading remarks were publicly made before Sheik Yamani went to the OPEC meeting.

Senator PERCY. Well, it's my general impression that Sheik Yamani did a real outstanding job in reasoning with his colleagues. The emotions were all to jack the price up again. Tying it to inflation, now, makes sense. That will make sense to a lot of people. That gives us all incentives to hold down inflation.

One last question. Is Gulf involved in solar energy, and in solar energy research—are you doing anything directly?

Mr. MCAFEE. Not to any significant extent. As you know, we are deeply involved in other energy projects, liquification of coal, shale, nuclear.

Senator PERCY. Alternate sources of energy.

Mr. MCAFEE. Alternate sources of energy.

Senator PERCY. Are you engaged in conservation efforts, advertising programs, public relations programs?

Mr. MCAFEE. Very definitely. As far as we are concerned we feel that our biggest contribution in this area is to police our own operations. After all, we consume a considerable amount of energy in processing oil, gasoline, and all the rest; and in making chemicals, especially.

We have undertaken a conservation program which I believe—and you may know better than I—involves a target of something like a 15-percent reduction.

Senator PERCY. That is your own company consumption.

Mr. MCAFEE. That's our own company consumption.

Senator PERCY. IBM has done an outstanding job in this regard. But are you in general supporting a national policy of conservation, even though it may be on the surface contrary to your immediate short-range, selfish interests?

Mr. MCAFEE. Well, we don't think it's contrary to our interests.

Senator PERCY. It may appear to be, although I don't think it is, either.

80-939—77——4

Mr. McAFEE. We feel very strongly on this matter, and if there were anything in this area that we knew we could do, we would do it.

Senator PERCY. Would you support Senator Kennedy's bill, S. 3424, which is the Energy Conservation Act; and if you have not studied it, would you undertake to study it and see what your position is?

Mr. McAFEE. We have studied it to some extent, Senator, and certainly we support many features of it. We certainly think that in principle the objectives are sound. We certainly will support, in principle, any significant constructive steps in that direction. We will be glad to study it in more detail.

Senator PERCY. We would appreciate a thoughtful analysis of the bill. I ask this simply because we do face a decision on the floor very soon, and we want to add it—if Senator Kennedy so moves—to the FEA bill.

I presume you are in favor of our phasing out FEA over a period of 15 to whatever months it is we finally settle on?

Mr. McAFEE. How about 15 days? [Laughter.]

Senator PERCY. Wait a minute, you may encourage me to keep the FEA longer.

Mr. McAFEE. Going back to the earlier subject of conservation, Mr. Lee has reminded me, and Mr. King, that we have had a significant program that might be of some general interest to you. Do you want to mention it, Mr. Lee?

Mr. LEE. We developed a program to encourage motorists to tune their automobiles up. There is a fair amount of energy lost from improper engine combustion. We went out across the United States, in the areas in which we market, with a program called Econovan, in which we would set up a van equipped with instruments at a shopping center and so forth, to measure the products of combustion. We went through a little computer business and came out and suggested to the motorist that he should go and have his car checked up, and told him how efficiently his engine was operating.

This was very well received. We got a lot of credit for that in some areas.

Senator PERCY. Thank you.

Mr. LEE. And it was free, also, my colleagues remind me.

Senator PERCY. Mr. Chairman, thank you.

Chairman KENNEDY. Just a couple of points. The fact of the matter is, according to the Committee on Foreign Relations, the Subcommittee on Multinational Corporations, that with the increase in the OPEC price, that the percentage increase of profits by the domestic companies increased rather dramatically over even those of the international companies. You understand that, don't you?

Mr. McAFEE. Yes.

Chairman KENNEDY. So, according to their reports, in the period from 1973–74 over 1972–73, among the five top domestic companies there was a 92-percent increase in profits, compared to a 56-percent increase over the previous years, and that was even with price controls which, under congressional action, are now going to be gradually phased out.

So, I don't think we want the record left with the fact that when OPEC does not increase the price, that it has major significance and

implications in terms of the profit margins of both the international, as well as the domestic companies, which do not always function according to the traditional, historically open and competitive American enterprise system. I wanted to at least raise that fact and encourage your response to it.

Mr. McAFEE. I would very much like to respond, if I may. That particular time frame that you selected was one of great upheaval, remember, when the OPEC price was increased fourfold, not 10 percent.

We must remember that the admittedly high profits by domestic companies, international companies, all of us, largely, to a very significant extent, were inventory profits, and were the result of the disruptions and the instability of the marketplace at that time; it should not be regarded as a long-term thing, unfortunately.

Chairman KENNEDY. But I don't gather from anything that you said here why it wouldn't follow that with the increase in OPEC prices there would be a corresponding increase in profits among the domestics and internationals.

Mr. McAFEE. The simple fact of the matter, Senator, is that the oil company's take is not a function of the total price, it is a fixed cents-per-barrel amount in most cases, sometimes by agreement, sometimes by the nature of the beast.

Chairman KENNEDY. Of course, that is not true with regard to the domestic crude, is it?

Mr. McAFEE. No; the domestic is completely different, it is under complete Government control for the next 39 months, or whatever.

Chairman KENNEDY. Well, you can say it is under governmental control, but the immediate past suggests that the Middle East oil-producing countries are going to have substantial effect on establishing what the price will be.

Mr. McAFEE. That isn't quite the way it is in this country, Senator. You may speak to that a little more, Mr. Lee, or Mr. King.

Mr. LEE. Well, I don't particularly follow that line of reasoning.

Mr. McAFEE. There is no question about there being crude oil price control in the United States at the present time, under FEA rules.

Mr. LEE. On the time frame on which the Senator is speaking, OPEC prices increased, and we sort of gasped and recovered. There were price increases in this country for crude oil that moved up. I think this is where you will see one of the explanations for the very dramatic increases in domestic operations in 1974, immediately following the 1973 embargo because there was some crude price rise in this country.

Mr. KING. Another aspect was that when the FEA put on allocation controls, this, of course, meant that a marketer could not shop around for supplies, the supplier was designated. This eliminated a lot of competition traditional in the oil industry; and as a result the allocation program—as always happens—set the ceiling on prices. Then, of course, that increased the domestic profits accordingly. As long as we have an allocation program, that will continue to be a factor. And, of course, a subsequent rise in price, this year, for instance, in OPEC prices would have no impact on that because it has no impact on the allocation program.

Senator PERCY. Senator Kennedy, because this originated with the question I put, could I have 30 seconds to explain the position that I took on it?

Of course, I look at it just as a merchandiser, and I looked at the marketplace—then and now. I could not see that you would have a chance to raise prices very much now. You have a highly competitive condition; you have price cutting; you have a surplus of oil. There is no one waiting in line anyplace, gas stations are competing against each other where before you had the psychological climate of the embargo; you had those long, long lines; and finally, when people were able to get gasoline, they were willing to pay almost anything to get it. There was no downward price pressure in the market.

Today you have a lot of downward presure, plus the fact that you know and we know you are going to take the blame if you raise prices. Every cent you raise the price—even though you say, our cost has gone up and we've got to go up—you are going to begrudge every penny because you are going to take a whale of a walloping psychologically from the American people, who will curse you and the politicians out. That doesn't give you much comfort, if you are going to be in the same category with us these days.

As I see it, that is why I took the position that probably today, unlike 3 years ago, your interests are right along with the national interests now, and the marketplace goes with you on it.

Mr. McAFEE. Very much so, Senator.

Chairman KENNEDY. I suppose you would have to ask why the gas prices are going up now.

Mr. McAFEE. I'm sorry, Senator.

Chairman KENNEDY. Why the gas prices are going up now, 2 to 3 cents in the summer, while we have a glut on the market? I certainly yield to my colleague, Senator Percy, who has had a distinguished and long career in the private sector. But this committee must also recognize that with any kind of increase in the OPEC price, there are bound to be implications in terms of the economy here in the United States, profits in terms of the domestic as well as the international market, particularly with the phasing out of controls and the allocation program. We must recognize that this is not a totally free market, open market, or free competitive situation in terms of the effective profits that are going to be available to the major domestic oil companies.

Mr. McAFEE. With the greatest respect, Senator, this is a highly competitive industry, and that is why we had the depressed product prices, and that is why we still have them. The recently announced gasoline price increases are simply recovering from extremely low prices which were at unprofitable levels for all the companies. The returns on investment are the final key to that.

If the oil companies—Gulf included—were enjoying exorbitant returns on our investments, any way you slice it, you would have an extremely good point. The fact of the matter is, our returns are still marginal, way below what they need to be in a high risk industry such as ours; below the national average, and below what they've got to be if we are going to continue to be a viable industry.

Mr. Lee has a point he would like to make.

Mr. LEE. May I just add something, please? I think if you go back to 1974, immediately with the embargo still affecting us, you know, the supply and demand situation was such that we were short of supply and long on demand. We were up against the stops at that point for the

prices of our products that we were allowed to charge under the FEA rules.

Today we are very much below those prices, and what you are seeing now is the laws of supply and demand coming back into effect. We are looking at, for the first few months of this year, demand up 7 percent over a year ago. So, demand is climbing, we are getting into the summer driving season, the demand is increasing more. As supply has not increased all that much, inventories begin to fall, and therefore people, marketers, see the opportunity to raise their prices a bit back toward those levels that get us up to the maximum allowed under the FEA rules.

Chairman KENNEDY. We have another witness. What you did not talk about is your increase in the value of the reserves. What have they increased, in terms of Gulf, in the last 3 years, the values of your reserves, just for the escalation of the increase by OPEC?

Mr. McAFEE. Well, you can multiply better than I can, I am sure. I don't think that has very much significance, Senator, with all respect, unless I am missing some point. Do you see the Senator's point?

Chairman KENNEDY. I can ask the other three gentlemen—I'll bet they will agree with you, too.

Mr. CAMPBELL. Mr. Chairman, I think throughout this last 2- to 3-year period we have basically lost concessions, and we no longer have reserves. We have two or three countries where we still have partial equity, but our major concessions are gone. So, there may be domestic reserve increases in terms of value, but overseas we are losing very rapidly.

Mr. LEE. You are talking about overseas, I think the Senator is talking about domestically. It seems to me that you have to look at what the replacement costs of those reserves are, and this is where we begin to get into some pretty high numbers, and we begin to get worried.

Mr. McAFEE. That is an extremely important point, sir. It is what it takes to replace them, and we are using them every day faster than we are finding them.

Chairman KENNEDY. I'm sorry we don't have time to continue this discussion, but we must call our final witness. I want to thank you very much. You have been most helpful in understanding this complex subject. Thank you.

Mr. McAFEE. Thank you, Senator, gentlemen.

Chairman KENNEDY. Our final witness is John Buckley, vice president and director, Northeast Petroleum Industries, with 20 years with national oil companies in financing, marketing and refining; 6 spent with Exxon. He is the cofounder and executive editor of Petroleum Intelligence Weekly. He is from Massachusetts, too. We are glad to have you here and look forward to your testimony.

You have an extensive prepared statement.

Mr. BUCKLEY. Yes, Senator, I would like to get a feeling from you on how long you would like me to take.

Chairman KENNEDY. Can you try for about 20 minutes, how would that do?

Mr. BUCKLEY. I can do it a lot more quickly, it is more valuable to ask questions than to listen to testimony.

Chairman KENNEDY. We will include your prepared statement in its entirety in the record. I think in our letter to you we raised the

principal types of questions in which we are very much interested, and some of which have been talked about in the course of our exchanges here this morning.

Mr. BUCKLEY. Well, why don't I do this, Senator, I would like to submit the prepared statement in its entirety for the record. I have pulled out the letter that you sent to me. So, rather than to read the prepared statement I will give some oral responses.

Chairman KENNEDY. I think one of the things we are interested in is, you know, the question Mr. Hamilton asked, whether the U.S. Government favors big oil companies too much, or not enough. Or, do you find that the Government favors the smaller, independent companies? What would you like to see in this area in terms of Government policy?

And then, we outlined in these questions the areas we are particularly interested in. You have a very extensive prepared statement that goes into great detail, a good deal of the history. I think generally you would have to describe it as rather a hopeful and optimistic and upbeat prepared statement with regard to the world oil market at the present time.

STATEMENT OF JOHN G. BUCKLEY, VICE PRESIDENT, NORTHEAST PETROLEUM INDUSTRIES, INC.

Mr. BUCKLEY. Yes; I think that is true. I basically tried to cover six separate points in my prepared statement. I started, of course, by thanking you for holding these hearings, and really for a very strong leadership role in energy over the last 18 months, during a time when Congress came in for a good deal of criticism, both from the oil industry and from the administration.

My own feeling in working down here during the 18-month period is that Congress has acted very responsibly. I am very grateful that it takes a while to get a piece of legislation passed because that lead-time gave the Congress some time to look beyond some of the emotional rhetoric and start putting together a comprehensive energy program; and I think it has made a good deal of progress in that regard.

The second subject I wish to discuss was just a couple of persistent statements on myths that continue to be repeated by responsible people. One, that OPEC could be, or would be likely to be broken up by some kind of U.S. policy. I just don't think that is realistic. I think that OPEC is stronger today than it was a few years ago. I think OPEC has gone through a very critical year—a 25-percent drop in production. If they were going to fail, if they were going to break up, it would have happened by now.

The sooner we recognize that this is not just another cartel, but is a cartel which has a philosophy behind it, a cartel anxious to see a redistribution of wealth between industrial countries, raw material producing countries, then we shall recognize that OPEC is concerned not only with just economic factors, and not just the normal economic decisions that a cartel might make; but also OPEC is an economic cartel backed up by a philosophy—a philosophy that in the long range they are not going to sacrifice for any short-range gains.

The other myth that continues to plague us here is a feeling that somehow or other we can become less dependent on oil, and on imported oil in particular. I just don't think it is realistic for the FEA to keep putting out reports that by 1980, or 1985, we are only going to import half as much as we do now; it flies in the face of what is actually happening.

We know they are going to be voting California next week on a moratorium on nuclear construction there. Now, whether that passes or not, there are 12 other States that are getting ready to put that issue on the ballot this fall. Nuclear is not going to go forward quickly and rapidly, it is not going to make nearly the contribution that people thought it would 1 year or 2 years ago.

With all due respect for our vast coal reserves, there are extremely difficult problems in extracting coal from the ground, both environmental problems and mine safety problems. The fact is that most of our new coal has to be strip mined in areas of the country that are very arid, where we have a very difficult job of reclamation. Then, if you can get it, you have air pollution problems burning it. So our coal is not going to come on all that quickly.

The conclusion one must come to is that oil is going to have to fill the gap. Natural gas is declining and will continue to decline. Even with the new legislative approaches that would increase the price of domestic natural gas, there is going to be a long leadtime before that has much of an impact, and there are many geologists who doubt that even with higher prices for oil and gas in this country weare going to solve many problems; that there isn't much oil and gas left to find.

So, we are going to be hooked on imported oil. And if my reading of the economy today is anywhere near right, that 2-percent energy growth number that Mr. Tavoulareas had in his table showing growth between now and the mid-1980's—that 2-percent growth of energy and oil is vastly understated.

We have seen the American people now adjust to the higher prices. The most striking fact that shows that they still want to drive those big automobiles is that not only are the U.S. automobile companies having a good year—they are probably having the third-best year in history—but also the only cars that are not selling as well as last year are the subcompacts. The intermediate cars are selling well; the Cadillac and Lincoln may have the best sales year in the history of the Cadillac and Lincoln divisions. The American public is consuming a lot more gasoline now, they are up 9 percent in the last couple of months from a year ago. Industry, on the other hand, has already conserved, there is not too much more they can do; and once you have made that one-time saving, then, as the economy picks up, you need more oil.

So, I look for oil demands up 6 percent or so this year and next year, and 5 percent probably right up through the year 1980. We have to be looking at 10 to 12 million barrels a day of imports, and perhaps more than that. There is no way we can wish it away, it's there. It is a myth to keep thinking and talking about things that will curb our reliance on OPEC and foreign oil because it is not going to happen, and we ought to recognize that.

The third point I wanted to talk about was the specific question you raised with respect to the quota system and the establishment of a

Government purchasing authority. I think a quota system would be a disaster. We lived through one which Mr. Tavoulareas thought helped the country but which I happen to think was a bad national policy then and would be even worse now. For a quota system to work you have to have spare producing capacity at home. We don't have any. So, the only thing achieved by putting a quota on at this point is the creation of an artificial shortage. Then you need a Government bureaucracy to tell you who gets the oil, and who doesn't; who you shutdown, who you keep running. If you are not willing to face the economic slowdown and the shutdowns that artificial shortages create, then you don't need a quota system, it just doesn't work.

With respect to a Government purchasing authority, there are many, many aspects on it that disturb me. I will just tick them off, they are supported in my statement.

The first aspect is that administratively it can't work and won't work. It would be an administrative nightmare to try to have a central purchasing authority get all the right kinds of oil for the right people at the right time in an economy as large as ours, which uses as much imported oil as we do.

Second, I think it would be anticompetitive to have a Government purchasing authority, because we independents think we can do better in the marketplace and act a little more quickly in the marketplace. Under this scheme we would end up buying at the same price and on the same terms from the Government as everybody else, and thus we would lose a key part of our competitive strength.

Third, I think the establishment of such an organization would just have to lead to some kind of politicizing of that organization; there are just too many "statesmen" in this Government that like to look at the economy as providing them with bargaining chips. They would be anxious to use those chips to achieve foreign policy objectives. The wheat deal, to me, was a classic example. I just think the temptation to take that $25 or $35 billion a year we are spending, the temptation to take that leverage and try to achieve foreign policy objectives would be too great—and I think that the end result would be very detrimental.

Finally, I just don't think it would work. I can't think of anything that would unite OPEC more than to have the world's largest importing country establish a mechanism designed to break OPEC. They would simply sit down together—and there are no antitrust laws that reach them—and decide what price they were going to jointly bid—in a sealed bid system—to the U.S. Government. If that price happened to be a little higher than the market price, then we face the embarrassing decision of whether we pay the higher price with a slightly red face, or whether to go without the oil. And of course, they know that we can't go without the oil, they have to know that; that is not a reasonable alternative, we can't shut our economy down; we don't have the leverage. We need the oil more than they need to sell it to us.

So, I just don't see how any of those systems could work.

I skipped over one subject, a point I wanted to make very quickly, and that was that there have been some positive aspects from the OPEC price increases. As much as we wish to criticize OPEC for

what they did, I think we do have to recognize that one of the problems facing us as a Nation over the rest of this century is the continued economic disparity between the major industrial countries and the developing countries. That disparity has been getting worse, rather than better. The per capita income in some of the larger developing countries, India, Pakistan, and some Latin American countries, has been getting smaller. This OPEC step has resulted in a transfer of real wealth from the industrial countries to a group of developing countries.

For that reason alone, what we have seen develop is a very rapidly growing market in those OPEC developing countries for the kinds of goods we can produce; the food we produce on our farms, manufacturing equipment, technological expertise. The result has been a very rapidly growing export market for U.S. companies, which I think will continue to grow. What we will end up having is a much larger volume of trade between industrialized countries, including ours, and the OPEC countries, than we had before—with all of the economic benefits that flow from a higher level of economic activities.

So, that to me has been a very strong plus, and I disagree with Senator Javits' earlier remarks that OPEC caused the recession. The recession was well under way in every industrialized country around the world long before OPEC raised their prices. It may have added a percentage or two to inflation. When you are talking about double-digit inflation, which we had, 1 or 2 points of 11 points is not the whole cause nor the sole cause; though it is a contributing factor. But oil was not nearly as important as food.

And in the European countries, where inflation ranged up to 26 and 27 percent, Italy and the United Kingdom, it played even a smaller part.

So, I do think we ought to recognize there have been some positive benefits in restructuring the world economic order to bring about a little fairer share to developing countries of the income that exists in the world.

Now, very quickly, I would like to turn to the answers to some of the other questions the subcommittee asked. One of those was whether there are divergencies between the interests of U.S. oil companies and the U.S. Government in the negotiation of long-term crude sales contracts.

I don't see any basic divergencies. I think companies—certainly ours—have been interested in security of supply; the lowest prices we can get; and the best terms we can get in paying for oil. Those seem to me to be consistent with the goals of the United States.

You have also asked whether the Congress ought to either require, or at least ought to have access to information on crude oil negotiations. I can see no reason why Congress shuld not have such information, I think it would be helpful to them. We already provide a lot of data to the Federal Energy Administration and other interested executive departments; and I think it would be helpful to provide it to Congress. After all, Congress is going to be involved in energy decisions from here on out, if for no other reason than just the oversight they will have on energy policies that have been already legislated, or are close to the edge of being legislated. I think that information could be helpful to them.

I don't see how direct congressional participation in long-term crude negotiations would be beneficial. Obviously we independents feel that since we don't have a lot at stake in 83 or 120 countries around the world, we can go into a producing country and suggest something a little different, perhaps, and not worry about whether we extend most-favored-nation to those other 120 countries we operate in because we don't operate in the other 120 countries the way the majors do.

So, we think that we can offer innovative approaches, that we can achieve better terms from a producing country than the majors. But I can't see us ever getting any kind of special treatment from a producing country if a member of the U.S. Government—be it congressional or the executive branch—is sitting with us and generalizing whatever concessions we might get back through the information chain. The producing country would be silly to make any special arrangements under those conditions.

So, I would not favor having direct government participation in crude oil negotiations.

I have already talked about the Federal oil and gas corporation. You have asked whether contracts assuring a producing country outlet for its crude minimize the need by that country to compete for sales by cutting prices.

Obviously, if a producing country could get such a deal, it would not have much need to compete by cutting prices. But in fact, what is happening in most countries, certainly in Kuwait and in Venezuela, which have now completed a 100-percent takeover arrangement from the majors, has been the signing of long-term contracts with the former concessionaires. But these contracts have not nearly covered the total production ability of such countries. Moreover, these contracts phase out, or phase down in volume as years go by, thereby putting these countries basically in a position of negotiating their own deals with third parties—with other oil companies, with other majors. They have done a lot of that already in both of those OPEC countries and in others. They do have to look at price very closely, and obviously have looked at price in terms of tying their crude price back to the Saudi Arabian marker crude price. If they price their crude attractively vis-a-vis that marker crude, their production tends to go up and they tend to make more sales.

If they price their crude higher than the marker price in terms of its quality, location, and proximity to the market, then their production goes down because they don't sell as much.

So that, in fact, is what has been happening up until now in the countries that have completed 100 percent participation. The question, while it is a good one, is not relevant to what is actually happening today. Thank you.

[The prepared statement of Mr. Buckley follows:]

Prepared Statement of John G. Buckley

My name is John G. Buckley. I am a Vice President of Northeast Petroleum Industries of Boston and a Vice President and Director of Energy Corporation of Louisiana (ECOL) a joint-venture of Northeast Petroleum and the Ingram Corporation of New Orleans, Louisiana. ECOL is presently building a 200,000 barrels daily fuel-oriented refinery on the Mississippi River about 35 miles up-river from New Orleans. I am a former Fuel Oil Chairman of the National Oil

Jobbers Council and currently on the Steering Committee of the Fuel Committee of NOJC. I am also a member of the Utility Advisory Committee to the Federal Energy Administration, Washington, D.C. and a member of the Emergency Petroleum Supply Committee of the National Petroleum Council. During the past three years I have visited almost all of the major oil producing countries around the world to negotiate crude oil contracts for our Louisiana refinery. I have met with and have had many discussions with Oil Ministers and other oil and financial officials from these countries and hope this firsthand experience will help this Committee gain some insight into the goals and aspirations of these countries.

Senator Kennedy, I would like to start by thanking you for the leadership you have displayed in the development of energy policy during the past year and one half, since President Ford announced the Administration's energy plan. Of course, your concern and involvement in this area is one of more than a decade's standing and we independent companies understand and appreciate the role you have played in trying to assure more equitable treatment for consumers both at home in New England and across the country. Your hearings this morning are just another example of your concern and continuing effort to make sure that this nation does not pay a disproportionate price for the achievement of dubious national objectives. I can think of no other subject in the field of energy that is so widely misunderstood as the implications for U.S. policy of the evolving relationships between U.S. based oil companies and OPEC—the subject of today's hearing. Nor has any other subject been fraught with so much emotional rhetoric. This hearing should do much to clear the air.

INTRODUCTION

In my statement this morning, I should like to comment on six separate subjects, all of which are interrelated but deserve specific comment. I should like to begin by discussing the constructive role this Congress has played in developing a cohesive and sensible energy policy over the last eighteen months. I would then like to turn to a discussion of (1) the positive aspects of the embargo-engendered OPEC price explosion; (2) the persistent myths that continue to confuse U.S. energy policy; (3) the undesirability of establishing a new quota system and/or a central government purchasing authority; (4) the answers to some of the other questions raised by this committee; and (5) the Federal Energy Administration—related questions likely to come before this Congress during the current session. We think some of these FEA issues will have an important impact on overall U.S. policy vis-a-vis OPEC.

THE ROLE OF CONGRESS

First, let's take a look at what Congress has been doing during the past eighteen months. I know this Congress has been criticized strongly by the Administration and many oil industry spokesmen during this period for a lack of speed in committing the nation to energy self-sufficiency. Actually, when one looks at the policies Congress was asked to adopt a year and a half ago, one can only be thankful for the deliberative nature of the legislative process. For Congress was asked to put our total energy policy on an OPEC price basis—that is, to tie the price of our oil, natural gas and coal to OPEC pricing. To have done so, of course, would have been a severe jolt to the economy—$50 to $75 million more inflation—more recession, more unemployment and, I suspect, very little net gain in domestic energy production.

But Congress refused to be stampeded. It resisted the siren call for a "quick fix". And, despite the complexities of the issues, Congress has moved with remarkable speed for a legislative body and has already fashioned many of the key building blocks of a rational, national energy policy.

A strategic storage program has been created. That step alone will go a long way toward protecting the United States from future supply disruptions or embargoes. The strategic storage concept has always been the cheapest, most cost-effective way of achieving reasonable security and a measure of independence in foreign policy matters.

The Congress has also embarked on what might be called a moderate energy cost program. It allows the average price of oil produced in this country to rise modestly month by month, yet keeps the weighted average cost far below the po-

litically established OPEC prices, rather than—as the Administration urged—tying domestic prices directly to OPEC prices. This approach allows newly discovered U.S. crude to be priced at a much higher level than old established production and thereby creates plenty of incentive for exploration and development of all but the most marginal geological structures that promise to yield oil reserves. Congress has also gotten a good start on conservation, including automotive efficiency standards, and has strengthened our competitive export position by providing lower energy costs to U.S. industry and agriculture than the energy costs now prevailing in other industrial countries. As a result, our balance of payments position in 1975 showed the biggest single surplus in the history of the nation—despite a $25-billion payment for oil imports

Of course, much remains to be done, particularly in two areas: conservation and natural gas pricing. But even in these areas, substantial progress has been made. For example, as the Chairman well knows, his own Energy Conservation Act of 1976 which encourages the minimum use of energy in housing, non-residential buildings, and industrial plants has already been favorably reported out of Committee. And while no overall natural gas pricing legislation has yet emerged from Congress, there are a number of proposals currently active. The approach in that area which seems to make the most sense would tie the pricing of newly discovered natural gas to the Btu equivalent of the weighted-average domestic crude oil price then in effect. This will permit a high enough natural gas price to encourage exploration for new gas without, again, tying the natural gas price directly to OPEC's crude oil price level which is not set in a free market but rather is set politically.

I sincerely hope that both the Energy Conservation Act of 1976 and new natural gas pricing legislation can be adopted in this session. With those two additional actions, this Congress will have virtually completed the legislative framework for a sane national energy policy. I think that rather than brickbats, congratulations are in order. I know how hard members and staffs of the appropriate Senate and House Committees (specifically the Senate Interior Committee and the House Interstate and Foreign Commerce Subcommittee on Energy and Power) have worked on various energy proposals that have come before them. It has been one of the most difficult tasks ever handed Congress, and while the results to date may not have been perfect, I think this Congress can be proud of its achievements in the energy area.

THE POSITIVE ASPECTS OF OPEC'S HIGHER PRICES

I know it is popular to blame the extraordinary OPEC price increases in late 1973 and early 1974 for the recession that has plagued Japan, Europe and the United States. It is always easier to scold others than to take a hard look at one's own policies to see where the fault really lies. Thus, OPEC has received almost unanimous worldwide criticism for the price actions taken during the embargo. It is not my purpose to exonerate OPEC but merely to point out that the recession in the industrialized countries of the world, with its attendant growing unemployment and inflation, was underway long before OPEC made its move. To be sure, the higher OPEC oil prices hit hard at countries that depended on oil for most of their energy and imported most of the oil they needed. But even in those cases, the OPEC price moves served only to exacerbate what was already a bad situation. The economic disequilibrium was present well before they acted.

Still, one can well remember the cries of anguish that went up and the predictions that the international monetary system could not handle the massive new flow of funds to OPEC countries. Others predicted that OPEC countries would soon amass such enormous new reserves that they could buy out the shares of all the companies listed on the New York Stock Exchange. These fears were, of course, exaggerated and have not been borne out by subsequent developments. In fact, what has actually happened is that the transfer of large new financial resources from the industrialized countries to OPEC has created a growing opportunity for industrial countries to export goods and services to OPEC. Companies here in the United States certainly have benefitted from OPEC's new wealth. Our own U.S. exports to OPEC have doubled between 1974 and 1975 and now stand at something close to $13 billion annually. I would expect this number to grow substantially because U.S. manufacturing know-how, technological and even agricultural expertise is very competitive in world markets and will insure that we receive more than our pro-rata share of orders from OPEC countries.

It is very interesting to note that the International Monetary Fund shows OPEC reserves at the end of 1975 at just under $57 billion. That sounds like a lot of money but represents an increase of less than $10 billion from the end of the 1974 level. This means that over the whole of 1975, all of the OPEC revenues received were spent except for a little under $10 billion. Between 1973 and 1974, OPEC had a net increase of some $33 billion. OPEC countries simply were unable on short notice to spend nearly as much income as they received in 1974. But as time goes by and additional port facilities and other infrastructure are added, the ability of OPEC countries to utilize new revenues is growing dramatically. In fact, in 1975 only Saudi Arabia, Venezuela and the United Arab Emirates increased their monetary reserves substantially in comparison with 1974. Indonesia, Libya and Iraq actually recorded declines. And this year it's clear from the financial transactions records that both Algeria and Iran are borrowing in the international money market to supplement their oil revenues in order to continue their development programs. Moreover, OPEC has embarked on a substantial and progressive foreign aid program and during 1975 granted some $5.6 billion in aid to other developing countries.

What is happening, I think, is that we are rediscovering the principle first made famous by Henry Ford when he started paying his workers $5 per day. It was Ford's theory that well paid workers would buy automobiles. He came in for his share of criticism for altering the then existing low wage structure. But he was right. We can trace today's modern consumer oriented economy directly back to the pioneering step taken by Henry Ford.

The point is that all during the twentieth century, industrial countries have given lip service to the fact that some way had to be found to bring developing countries into the world economic structure. Great new initiatives were undertaken just after World War II with the creation of the International Bank for Reconstruction and Development and the International Monetary Fund as well as the General Agreement on Tariffs and Trade (GATT) and our own bilateral foreign aid programs. All of these international organizations and programs were designed to enhance trade between countries and bring a fairer return to developing countries so that they might actually start to better the living standards of their citizens.

Yet, in 1976, the sober fact is that many of the largest, most populated of the developing countries are becoming poorer each year. Per capita income is actually dropping. The World Bank now divides developing countries into three categories—lower income, middle income and higher income. The lower income poor countries have an average per capita Gross National Product of about $116 per year (about $2 per week per person to live on). India and Pakistan are both in that category. Middle income poor countries average some $350 per year per capita, with the upper income developing countries averaging slightly over $1000 per capita of Gross National Product.

Even those numbers, of course, over-simplify the grinding fact of poverty for most of the citizens of those countries because within most of those countries gross disparities in income exist between the elite wealthy class and the common citizen. Obviously, so long as those conditions persist, with most of the citizens of the world living day to day without adequate food, housing and medical care, the seeds for international conflict exist. If we have learned anything in the past century, it is the fact that we are living in an age where local revolts become international incidents—and sometimes wars. We can never hope for a peaceful, stable world so long as these enormous income disparities exist.

Yet, the industrial countries have seemed unable to cope with this reality by actually voluntarily changing the economic order. From this standpoint, the OPEC price revolution of 1973–74 may prove to be the single most important economic action undertaken by a group of developing countries in the twentieth century. The OPEC countries have, by their own joint policy decisions, thrust themselves up from the status of developing countries to the status of economies in rapid transition to industrialized nations. They are closing the gap in a hurry and the lesson for other developing countries is there for everybody to see.

It is for this reason that I think the United States should carefully weigh any action designed to confront OPEC and should pursue instead policies to cooperate with OPEC. OPEC leaders have certainly shown their desire for moderation now that higher prices have been established and revenues are flowing to them. Their decision, or lack of decision on a price increase just last week in Bali underlines this moderation. We, for our part, should recognize the tremendous opportunity

that this new market gives us for increasing our exports. The OPEC countries are much like Henry Ford's workers—they are now able to buy the things that we are so efficient at producing. And both we and they should end up with a permanently higher level of trade and economic activity. The United States, the other industrialized countries, and the OPEC nations will all enjoy the economic benefits that flow from a higher level of economic activity. From the standpoint of this perspective, I think this Committee ought to look at the OPEC price explosion as carrying with it very positive overtones and perhaps the beginning of the end of the long established vicious cycle which has seen industrialized countries grow more and more wealthy and developing countries grow poorer and poorer.

PERSISTENT MYTHS THAT CONFUSE U.S. ENERGY POLICY

Of all the myths and misunderstandings that continue to plague the formation of an intelligent U.S. energy policy, there are two that are particularly disturbing and need to be set straight. The first of these is the often stated view that if only we can get consuming countries to act together, we can break OPEC. There are many different scenarios envisaged for the break-up of OPEC, ranging from military threats to sealed bid auction schemes through the establishment of a Government Purchasing Authority which would encourage individual OPEC countries to defect in order to gain increased market position. I think it's time we stopped kidding ourselves. OPEC exists now and has been in existence for sixteen years. It has held together through enormous strains. In fact, OPEC has just met and overcome a rather crucial year. They have weathered a very severe decline in production. OPEC countries were producing some 33 million barrels a day in 1973 prior to the embargo. Two years later, in October of 1975, they were producing only 26 million barrels a day—a 25 percent decline in production. That is the kind of decline that should have caused OPEC to split apart if it were weak. It did not happen. Saudi Arabia, all by itself, took a decline of 1.6 million barrels per day Make no mistake. So long as Saudi Arabia is willing to act as a balance wheel and take production cuts, OPEC is certainly going to survive.

Mr. Chairman, this Committee should understand that what OPEC has done really is simply agreed upon a "marker price" for Saudi Arabian light crude oil. Every OPEC member is then left free to decide how to price its own crude oil in relation to the marker price. This has introduced the flexibility needed by individual countries to make price decisions that will encourage customers to buy more of their oil or conversely discourage customers from buying so much of their oil. This approach has introduced a market concept which allows changes in world demand patterns and changes in tanker rates to make themselves felt quickly and bring about corresponding price changes in various crude oils that are available around the world. Thus, for example, when, as at present, freight rates have fallen as a result of the worldwide surplus in very large crude oil carriers (VLCC's), the value of crude oil close to the major marketing areas has also fallen. Algerian of Libyan crude close to Southern Europe two years ago carried a larger premium related to their geographic location than today simply as a function of the lower freight rates that are now available to move Saudi Arabian market crude all the way from the Arabian Gulf into the European market. Similarly, the premium for light, low-sulfur crudes such as Algerian or Nigerian in West Africa has increased as the demand in both Europe and the United States for light products such as gasoline and home heating fuels has grown relative to their demand for heavy residual fuels.

We have also seen that if a country such as Iran prices its crude above its relative value vis-a-vis the Saudi Arabian light marker crude, sales fall off rather dramatically and do not pick up again until price cuts take place. At the present time, the price for heavier Middle East crudes, such as Kuwait and Iranian heavy, is too high relative to the market price and sales are therefore down. There have been price cuts in recent months for these two crudes but the cuts were not deep enough to bring them into their proper relationship with Saudi Arabian light. Thus, we would expect further cuts in these two crudes during the next few months if the countries concerned want to keep their production levels moving upward as the world economy recovers.

By the same token, Venezuela, which normally has priced its oil towards the high side of the price spectrum, found last winter that its crude production had dropped so sharply that corrective price action had to be taken. Vene-

zuela now prices its crude at a very competitive level and production is already moving up as a result.

In sum, Mr. Chairman, it is theoretically possible for the U.S., acting in concert with other industrial countries, to break the OPEC cartel. However, we would have to pay the price of ruining our own economy by diverting massive capital funds to subsidize very marginal, inefficient, high cost energy production in this country. This price would be far too high and would hurt us far more than it would hurt OPEC.

The second myth that still continues to plague our energy planning is the thought that somehow or other our national security, our very survival as a modern nation, requires us to be less dependent on imported oil and the corollary myth that we can become substantially less dependent on imports over the next five years. The thought that somehow or other our national security is directly linked to the number of barrels of oil we import a day is to me such a narrow view of national security as to be almost ridiculous. Yet, this train of thought persistently runs through both the first and the second Project Independence reports. It is far too narrow a context within which to view national security and foreign policy flexibility. No matter what we do, Europe and Japan cannot escape overwhelming dependence on OPEC oil to fuel their economies for the next five to ten years. Given the interdependence of our economy with those of the European countries and Japan, their vulnerability is our vulnerability. We do not really have the unilateral options we used to have in the energy arena. We and other industrial countries do need a certain volume of oil. The producing countries, for their part, do want to diversify their economies and improve their standard of living. Their spending pattern in the last two years certainly proves that. Between these two groups, cooperation can yield a higher level of world trade and a growth in mutual interdependence. This is a logical course and one which we should prefer.

That doesn't mean we shouldn't do anything about developing indigenous energy resources. Obviously, the embargo showed us that oil energy is a finite resource. We and other countries have got to develop alternative sources, and we and other countries must conserve and use energy wisely while we have it. Those are very useful lessons to us.

In the meantime, if we are to become more and more dependent—and, indeed, there seems to be no alternative if we wish to have a prosperous economy for the next several years—then the strategic storage program, which Congress has already provided for, can be seen for what it is: an indispensable prerequisite to maintain our foreign policy options and protect our national security against temporary disruptions of oil supplies at a relatively modest cost.

The point is that Congress and the Administration are moving forward on a storage program that will protect our national security and give us time to unsnarl any supply disruptions that may occur without exposing our economy to massive damage. Yet, the rhetoric from the Federal Energy Administration continues to stress declining dependence on imports over the next several years. That is a myth. It is not going to happen. We are far more dependent on imported oil now than we were prior to the embargo and we will be even more dependent in 1980 than we are today, despite the arival of North Slope-Alaskan oil sometime next year or, depending on the delays that might occur in the pipeline construction, early in 1978. That is a fact of life and we ought to face it squarely.

SHOULD WE ESTABLISH A QUOTA SYSTEM?

Let us start our discussion of the re-establishment of a quota system with the observation that we lived under a mandatory oil import quota scheme from 1959 until 1973 when it finally fell apart of its own weight. Yet, support for the re-establishment of a quota system continues to persist in Congress. This Committee ought to understand clearly that the adoption of such a solution to our "energy problem" would be a disaster for the nation. Quantitative restrictions are by their very nature inherently discriminatory. They freeze trade patterns and develop rigidities that make it impossible to cope with changing world conditions. Moreover, under today's circumstances, they simply would not work.

Mr. Chairman, I know I don't have to remind you of how the East Coast, and particularly the New England region, suffered under the old quota system by being denied access to low cost foreign oil and by paying a disproportionate

share of the price for what was billed as a national security program. But at least the quota system then in place made some sense when one viewed the objectives it was seeking to promote. It was designed to protect domestic production from price competition abroad. Since we had a fairly large spare productive capacity, we were able to restrict access to foreign oil to an absolute volume limit while allowing our domestic producing companies to produce enough oil each month to meet total demand.

The simple fact is that today we don't have that option. We don't have any spare productive capacity. Our production topped out several years ago and has been declining for the past several years. Thus, the establishment of a quota, if it bites at all, will simply create an artificial shortage.

I remember well talking to a member of the Energy and Power Subcommittee of the House Interstate and Foreign Commerce Committee almost a year and a half ago and hearing the question, "Well if we have to cut consumption, rather than do it by raising prices, why not just establish a quota and limit the volume of foreign oil allowed to be imported?" I responded to the Congressman, "All right, who do you want to shut down first? Would you establish priorities to shut down schools and allow industrial plants to keep operating or would you keep schools and hospitals functioning and shut down industrial plants?" He responded, "Oh, I don't want to shut down anybody." I said, "Well, if you are not going to curb consumption by using a quota, if you're not willing to create an artificial shortage, then why use a quota at all?"

The simple fact is that a quota system won't work unless we are willing to create artificial shortages and develop a huge government bureaucracy to determine who gets the limited amount of oil that is available and who doesn't.

SHOULD WE ESTABLISH A GOVERNMENT PURCHASING AUTHORITY?

There are equal if not worse dangers in the idea of establishing a Government Purchasing Authority. On the face of it, the lure of a central Government Purchasing Authority with the sole right to buy all of our oil requirements sounds like it might give us a useful lever to weaken OPEC's power. It might provide incentives for members of OPEC to discount their oil in order to gain a larger share of the world's largest single market for imported oil. Unfortunately, the proposal bears no relation to what happens in the real world. It would not only be an administrative nightmare but it would also be anti-competitive in its impact and lead to the politicizing of what should be commerical trade. Finally—and perhaps most damning of all—it won't work.

Let's look first at the administrative difficulties. For purposes of illustration, let's just look at one product, residual fuel oil, which now moves into the seven state New England-New York area. In Maine, customers can burn residual fuel with a sulfur content of 2.5 percent in most of the state but are restricted to 1.5 percent in the Portland region. In Massachusetts, 0.5 of 1 percent is all that is allowed in Boston (with certain exceptions for large users with high stacks), 1 percent sulfur heavy fuel can be burned in other parts of the state and in still other parts of the state, 2.2 percent sulfur is permitted. In Rhode Island, the rule is 1 percent. In New York City, by contrast, it is 0.3 of 1 percent. These are sulfur differences that apply to one product: residual fuel oil.

In addition, there are other characteristics of the fuel that are important. For example, industrial and commercial users, such as hospitals, schools and manufacturing companies must use what we call "low pour" residual fuel. This fuel does not require much heat to deliver and use. It will stay in liquid form at temperatures down to 60° Fahrenheit. Utilities and certain other large users, on the other hand, have special heating equipment and can take delivery and use residual fuel called "high pour" which needs to be kept heated to 90° to 100° Fahrenheit. If it drops below that temperature, it becomes a solid.

So you can see, Mr. Chairman, that in that small region of the country there is enormous variety in physical characteristics, even for the one product, residual fuel. If you multiply that by sulfur requirements in other parts of the country, you would certainly have an administrative nightmare. Every day there are some 20 tankers loaded with refined products coming into the United States. During the winter when it is cold, there could be 35 or 40 shiploads every day. Literally hundreds of companies and supply departments are buying refined products. These departments are staffed with experienced supply people and knowledgeable tanker people who are able to adjust quickly to weather and other circumstances. As far as independent terminal operators and market-

ers are concerned, we believe we have a competitive edge over the major companies and have been able to grow during the last decade because we have supply people who can act quickly, in 15 minutes if need be, without executive authority to cut a deal. They know the market. Can you imagine a centralized government authority delivering the right specification residual fuel at the right time to each company and each consumer that requires residual fuel? I believe it would be administratively impossible.

The problems of supplying crude oil to the nation's some 240 refineries would be even more difficult. What if the central purchasing authority went out on sealed bid and received a very attractive offer for Kuwait crude? The fact is that some two-thirds of all the refinery capacity in the United States could not operate on Kuwait crude and many of the other refineries would be able to operate on Kuwait crude only by cutting their total capability. That's because Kuwait is a relatively high sulfur heavy crude and most U.S. refineries are designed to run a sweet, low sulfur crude.

As you know, Mr. Chairman, our company is today building a 200,000 barrels a day independent refinery in Louisiana as a 50 percent partner with the Ingram Corporation of New Orleans. We expect to start production within the next 3 to 4 months. I can tell you that we have run perhaps a hundred computer programs to try to determine the optimum crude slate that we need in order to produce the products that will give us the best yield in the marketplace. We have designed our plan to run heavy, high sulfur, high metal content crude oil. We can handle almost any crude in the world. Thus, we are in pretty good shape to go out and buy the cheapest crude possible.

But if we had a Government Purchasing Agency and it went out on a sealed bid basis and happened to get a bargain from some country with a high quality crude, we would end up with a crude oil our refinery is not designed to handle. In such a case, we would not have to use any of our desulfurization equipment. We would thus give up the advantages we thought we had purchased with our capital investment in desulfurization. But at least we could handle the high quality crude. Faced with a similar situation on heavy crude, most U.S. refiners don't have that option. Many of them are severely limited in the quality of crude oil that they can run through their plants. They don't have the right metallurgy to handle high metal or high sulfur crudes. And yet, there are far more crudes in the world with medium or high sulfur content than there are with low sulfur content. Thus with more than 240 refiners in this country, the likelihood of all of them being supplied with the right quality crude oil at the right time so that each refiner is able to optimize yields is remote at best. Equally remote is the chance that each refiner's customers will receive the right quality products when they are needed. In short, the whole operation will break down if it's to be handled by a Government Purchasing Agency.

Quite apart from the administrative impossibility of such a plan, it would have a severe anti-competitive impact, particularly upon independent marketers and independent refiners. As I indicated earlier, one of our strengths is our ability to make purchases of the right product or of crude oil in the marketplace quickly. We can take advantage of what we see to be weaknesses in the marketplace for both crude and products. Similarly, our supply people know the tanker market and can usually arrange freight more economically than our major competitors. I have noted in my own crude oil negotiations around the world that many producing countries, who have taken over all or part of the major company operations in their country, are anxious to sell to U.S. independent refiners. I have noted that we are able in some cases to get attractive payment terms for the crude we purchase or helpful flexibility in transportation schedules.

In short, it's a buyers market and with our ability to act quickly, without long committee meetings, we are able to gain a competitive edge over our major company competitors both in importing products and in importing crude. That competitive edge would be lost should a Government Purchasing Authority be established. We wouuld then have to buy at the same price as everybody else and at the same terms as everybody else. The anticompetitive aspect of such a procedure should be clear to every member of this Committee.

Quite apart from these obvious difficulties, there are two other aspects about the establishment of a Government Purchasing Authority that give me serious reservations. First, when you have a single government agency buying some $25 to $30 billion a year of crude oil and refined products from abroad the very likely result will be to tie these purchases into our foreign policy objectives—whether economic policy or overall foreign security policy. Certainly when France

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established their state oil company, within a relatively few months it was operating as an arm of French foreign policy. Right after France lost the Algerian war and established a French oil purchasing authority, that company went out and negotiated a deal with Algeria for continued use of most of the Algerian crude oil. General DeGaulle wanted to tie the Algerian economy to France even though France had lost the war militarily. They did it by paying a $1.50 per barrel more for Algerian crude than its market value at that time.

Right here in our own country, I think the negotiations for the wheat deal three years ago give some indication of what can happen if you seek to achieve a foreign policy objective and you don't know the marketplace. We ended up, as the Committee may recall, by selling our wheat to Russia at a relatively low price and then developing a shortage here at home with resulting high domestic prices. I am afraid that many of our statesmen are too prone to view our U.S. economic productivity in various fields as simple bargaining chips to be sacrificed to achieve foreign policy objectives. That frightens me with respect to imports of crude oil and refined products. The temptation to politicize this trade would be great and the international oil market is far more complex than the market for wheat.

Finally, even if none of these objections were enough, the most devastating argument that can be used against a Government Purchasing Authority is the fact that it won't work. The mistake is in viewing OPEC as a simple cartel. In fact, as we have discussed, OPEC is more than an organization set up for cartel purposes. It is also a political organization with a central ideology—to bring about a more equal distribution of the world's wealth by transferring real income from industrial countries to developing, resource producing nations. That goal has a higher priority than any short range benefits that might be obtained by discounting prices to obtain a larger share of the U.S. market.

Moreover, I can think of nothing better designed to create unity within OPEC than a direct challenge by the largest single industrial importer of OPEC oil. That is how OPEC would view the establishment of a U.S. Government Purchasing Agency. It would be looked at as a step designed to break OPEC.

For any sealed bid system to work, there must be anti-trust laws. Yet, United States antitrust laws would not touch OPEC. They are sovereign nations and if they are confronted with an American import monopoly, what is to prevent them from submitting a collective bid of, say, $1.00 per barrel higher than the market for the crude oil or products requested by the U.S. Our only option at that point would be either to accept the bid with a red face or to do without OPEC oil. They have to know we could not accept the second option. In short, Mr. Chairman, we need the oil more than they need to sell it to us. For this reason alone, the creation of a government import monopoly just won't work.

OTHER QUESTIONS RAISED BY THE COMMITTEE

In your letter to me of May 10, 1976 inviting me to testify before the Subcommittee today you raised a number of specific questions. Some of these I have already answered in my previous testimony. I would like now very quickly to provide direct answers to some of the other questions outlined in the May 10 communication.

First, you asked if there were diversities between the interests of U.S. oil companies and those of the U.S. government in negotiating long-term crude sales contracts. My answer is that I know of no serious diversity. The U.S. companies concerned are interested in security of supply, minimum prices and favorable terms. I should think those objectives would also be the primary goals of the U.S. government. You also asked whether it would be helpful for Congress to require access to information on crude oil negotiations and/or participation in such negotiations. I would have no objection to the Congress requiring or asking for certain information it deemed relevant from U.S. companies. We already provide a great deal of information on a confidential basis to the Federal Energy Administration. So long as such information could be given to Congress on a similar basis so that our competitive posture is not damaged, I am sure that we would be happy to cooperate and make such information available. I would draw the line, however, at providing information which foreign countries had asked us to keep confidential. Releasing such information to any government authority would be likely to undermine the good faith and trust such foreign producing countries have in our company and could only result in damage to our mutual relationship.

On the other hand I can see nothing to gain by requiring Congress to participate in negotiations with private companies in long-term crude oil sales contracts. In fact, I would think that any government involvement in such discussions would virtually rule out the chance for independent companies to negotiate attractive prices or favorable terms. For this reason, I would strongly oppose direct Congressional involvement in crude oil negotiations.

You next asked whether contracts assuring a producing country an outlet for all of its crude production would minimize the need for that country to compete for sales by cutting price.

Obviously, if a producing country can sign a contract assuring it of a complete outlet for its total crude production, it would not have to compete for sales in the world market. But the question is not responsive to the actual situation. In fact, the producing countries that have taken over all or part of the production operation formerly handled by the international oil companies have signed a number of supply contracts with those very companies. But most of those supply contracts have a minimum and maximum lifting range which is quite wide. Thus, if the country prices its crude oil too high, the company buying that crude lifts the minimum level. This is, indeed, happening today in Iran, Kuwait and in other area. On the other hand, if the producing country prices its crude at realistic or lower levels relative to the Saudi Arabian marker crude, then the companies would tend to maximize their liftings of that crude. In short, there are market incentives and price incentives affecting the producing countries today, and I expect they will continue. With some 11 million barrels of spare producing capacity among the various OPEC countries, it is a buyers market.

You have also asked whether the desire by companies for assured access to crude might inhibit them in attempting to negotiate lower crude prices or in developing U.S. domestic energy sources. I would answer a flat "no" to both questions. As I have indicated, there is enormous spare producing capacity around the world and additional spare capacity is being added even at the present time. Thus, companies—major and independent alike—can do some shopping in the world marketplace in order to ensure that they get the lowest crude prices available. They can simultaneously trim back their offtake of crude oils they feel are overpriced relative to Saudi Arabian marker crude.

Another question raised by the Committee was whether we could foresee exporting countries using their crude oil leverage to take over downstream operations of the multinational companies. We don't see this happening. Some of the producing countries have shown some modest interest in investing in downstream operations but most are far more concerned with the development of their own internal economies. The major thrust of their investment activity is in developing additional port capability, highway and other infrastructure needed as a prerequisite to further economic development. Major funds are also being committed to hospitals and schools as well as safe and ample water supply. Those countries with surplus funds accumulating over and above their ability to absorb such funds are showing a preference for seven year bonds of AAA industrial companies far more than they are showing interest in investing in refining or marketing in foreign countries downstream.

You also asked whether we could take advantage of any price competition that might develop between producing countries without risking loss of access or other penalties from those producing countries which "hold the line." The answer to that question is "yes". I think both independent and major companies could take advantage of such price competition. This could be done in two ways. First of all, if limited amounts of crude oil became available at attractive prices, one could minimize production and buy the small volumes of oil that might become available at lower prices without risking any penalty since, as I have indicated above, most existing contracts do have minimum and maximum lifting requirements.

If one or two large producing countries were suddenly to price their oil at a much lower level than the existing world market price, there is also flexibility in existing crude contracts to take advantage of that situation.

Mr. Chairman, virtually every long-term crude oil contract, whether entered into with a major producing country or with one of the multinational companies, has in it today what we call a "quarterly price review clause." Under that clause, either party can reopen, and indeed terminate a long-term crude contract if it feels that the price for the crude oil is not consistent with the world market price at that time. A "quarterly price review clause" is, in effect,

a very short time fuse on a long-term contract. We have such clauses in all of our newly negotiated crude oil contracts and expect that most other companies have similar clauses. It is a way of doing business today which enables both U.S. and foreign independent and major refiners to take advantage of lower crude oil prices that may develop for large volumes of crude supplies.

Finally, you have asked whether the U.S. government provides adequate protection for independent oil companies in their overseas operations. Yes, I believe that U.S. government policies do offer adequate protection for independents in their overseas operations. Indeed, we need no special protection in our overseas operations. Of course, we are subject to major supply disruptions and/or embargoes but so is everybody else, including our major company competitors. In those instances, the Emergency Petroleum Allocation Act of 1973—even if it is on a standby basis at some future time—would ensure us of at least our pro-rata share of available domestic oil. Thus, we are in no need of any special treatment from the U.S. government in our overseas operations.

This question does, however, lead me to the final point that I would like to discuss with this Committee. It relates to the Federal Energy Administration issues that are likely to come before this Congress during its current session.

FEA RELATED ISSUES OF INTEREST TO CONGRESS

Mr. Chairman, there are two rather narrow FEA issues and one broad issue that I would like to discuss with the Subcommittee at this time. The two narrow issues relate to changes in existing FEA rules and regulations that are likely to be proposed during the next few weeks or few months, and the final broad question deals with the subject of continued price controls on petroleum product sales in the United States.

The first of the two narrow issues deals with a proposed FEA regulatory change which would end entitlements received by U.S. refiners on sales of bunker fuel to foreign flag vessels, including vessels bringing goods into the United States and vessels used to export goods from the United States. As you know, American consumers should be the only ones to receive the benefits of the entitlements program, which is a program designed to equalize crude oil prices among all U.S. refiners so that each refiner will have a lower weighted average crude oil price than foreign refiners. This lower average price results from the fact that domestic crude oil prices are under price controls, at levels significantly below OPEC price levels. The new regulation seeks to make sure that the benefits stay with American consumers, and, therefore, it does not permit entitlements to flow to a refiner on export sales. Unfortunately, included in the export sales are, by definition, bunker fuel sales to foreign flag vessels.

We think this is a mistake and flies in the face of sensible U.S. economic policy. Implementation of this rule would mean that every vessel bringing merchandise into the United States, including tankers bringing crude oil into the United States, would bear sharply higher freight costs since the U.S. refiner would no longer be able to supply bunker fuel to such vessels without losing an entitlement currently worth $2.80 a barrel. Obviously, such a refiner would have to pass along his higher crude costs in the bunker fuel sold to such vessels. Thus, the cost of importing everything would go up. This would contribute to inflation and certainly is not in the best interest of the American consumer. Similarly, all exports of goods from the United States on foreign flag vessels, including all of our agricultural exports, would incur a higher cost since bunkers sold to vessels departing a U.S. port for a foreign port would have to reflect the higher cost to the U.S. refiner of the loss of entitlement on such sales. This means our competitive position abroad would be undercut by the higher freight costs resulting from this rule change. We would hope the members of this Committee will make their position in opposition to such a change clear to the Federal Energy Administration.

The second narrow but critically important issue is the question of a proposed change in the fees now payable on imports of refined products and crude into the United States. This proposal is still in the "trial balloon" stage and we hope this Committee will help us shoot it down.

As the Chairman probably remembers, more than three years ago the United States established a fee system with a 21¢ tariff or fee on crude imports and a 63¢ fee on product imports. In the East Coast area, traditionally heavily dependent on imports of products, importers were granted fee-free licenses which were

to be gradually phased out by 1980. Thus, while the new 63¢ fee is still in place, its impact is really moderate and very minor in raising costs gradually over a period of seven years to traditional importers on the East Coast.

Yet, the existence of this "permanent feature" of the import system does encourage additional domestic refining capacity since the domestic refiner knows that by the time his refinery is completed and on stream, there will be a measure of protection granted him in competing with foreign refiners who, of course, have far lower costs of operation and usually pay little or no income tax.

The FEA has indicated that domestic refiners don't need this fee protection because of the entitlements program. We think that there are very serious legal problems in such an approach since it implies that entitlements can be used as a substitute for a duly authorized tariff or fee established by Congress. It would be the same as saying that the entitlements program could be used as a substitute for the Federal income tax.

This country is the only major industrial country with insufficient domestic refining capacity and our capacity will be far more deficient five years from now than it is today. There are no new refineries, apart from our own project, under construction in the United States today. We think the nation does need more refineries and the abolition of the fee system will ensure that we shall not get those needed refineries.

We hope that members of this Committee will let the FEA know they would oppose such a questionable policy change.

PRICE CONTROLS

Finally, Mr. Chairman, I should like to come to what I think is probably the single most important energy issue up for decision by Congress this year. I refer to the question of price controls on refined products. As the Chairman knows, since he participated in many of the deliberations and discussions, the Federal Energy Administration proposed and Congress agreed to lift price and allocation controls on sales of residual fuel oil in the United States effective yesterday, June 1.

Now the Federal Energy Administration has issued preliminary findings and held hearings to take a similar step with respect to distillate fuels, No. 2 heating oil and diesel fuels. An FEA proposal is likely to be sent to Congress in the next week or ten days and Congress will then have fifteen days to hold hearings and either accept the FEA proposal to decontrol or, in effect, veto it.

We believe Congressional action on this issue will be a watershed decision which will shape the destiny of the oil industry for the next generation. If after five years of price controls (no other industry is today under such controls), we cannot get rid of such controls despite the fact that prices are well below allowable margins and supplies are ample both at home and abroad, when will controls ever come off?

Boiled down, the issue of exempting distillate production from price controls will pose the question to Congress of whether the oil indutry is to continue to function as part of our market-oriented free economic system or become just another public utility subject forever more to controls which foster inefficiency—controls which are already sapping the competitive strength of independent refiners and marketers alike.

Mr. Chairman, as a new independent refiner making a $300 million capital investment in a new facility we would be the last to urge the scrapping of controls on distillate fuels if we felt that the continuation of such controls would offer us a "security blanket" or in some way guarantee our economic viability. Yet we favor decontrol and so testified at the FEA hearings on March 3, March 9, and again on May 12, 1976.

Our reasons are quite simple. We believe that the allocation and price control system now in effect hurts independent refiners and independent marketers more than their major integrated competitors. At a time when both foreign and domestic supplies are ample, it is the small independent who is hurt by controls more than his giant competitors. We independents have the ability to act quickly and take advantage of world market trends in buying crude oil and in arranging freight. We can also act quickly in making attractive sales to new customers. Generally, we have been able to "outsell" our slower-moving, bureaucratic major competitors by offering better service and better prices to customers. This has been the essential element in our growth and prosperity in a free market economy.

Our experience has shown us that all these advantages are lost when we are beset by a mass of red tape, caught in a tangle of controls and monitoring, and basically hobbled by the fixed purchaser-supplier relationships that now exist.

We welcome the challenge of the marketplace. We think that we can grow and prosper and the customer will benefit if we are allowed to exercise our judgment and utilize our ability to move quickly.

Unfortunately, the allocation and price controls imposed on the industry negate, under current market conditions, most of our natural competitive advantages. This is why we favor removal of distillate fuel oil allocation and price controls at this time. Indeed we think there may never be another time.

We do recognize that the control authority is not being removed and that it will remain on a standby basis in case of an embargo or other international disruption over which we have no control. We think that is a proper procedure.

Mr. Chairman, I think you understand how regulation and control spawn still more regulation and control until all semblance of competition and new entry is squelched. Just a few months ago I happened to sit next to a friend on an airplane bound to Boston from Washington. His name was Stephen Breyer. He was just completing a year's work as special counsel to the Subcommittee on Administrative Practice and Procedure of the Senate Committee on the Judiciary. He had received a year's leave of absence from his teaching post in Cambridge. Mr. Breyer showed me your committee print report on the Civil Aeronautics Board Practices and Procedures.

Mr. Chairman, as I read that report, I was appalled. I was not surprised, therefore, to see your statement on the airline situation in the Congressional Record of May 11. In that statement, you noted how controls had hampered new entry and destroyed price competition in the airline industry to the detriment of the consumer. You then stated:

"The point I am stressing is that these procedural abuses spring not out of any personal or inherent perniciousness on the part of Board members. Instead, they stem from the basically contradictory nature of competition and public utility type regulation. Thus there is a natural temptation for the regulator to take procedural shortcuts in order to serve the perceived regulatory goals of market stability and the financial health of each regulated firm. This raises the costs to travelers without providing either them or the airline with corresponding benefits.

"The simple fact is that CAB regulation has failed both the airline industry and the traveling public. It has failed the industry because inflexible Board regulation has not encouraged innovation, has not sufficiently rewarded efficiency, and has not provided consistent profits. And, even more important, it has seriously failed the consumer. It has not brought about, nor even allowed, the lower prices that would come from competition."

My point, Senator Kennedy, is this: I see all too many parallels between the airline industry as it is now and the oil industry as it will be if price and allocation controls are not lifted on distillate fuels now, and on other products and eventually crude oil when the current 40-month phase out of price controls on crude oil is complete.

Frankly, I don't trust controls. In a dynamic market-oriented industry, they can't do the job. They reward the inefficient and soon develop support within the industry. The consumer, as usual, ends up paying the price for the loss of price competition.

Mr. Chairman and members of this Committee, I can already see many of the negative features cited by Senator Kennedy in the May 11 Congressional Record developing in the oil industry. By and large, the oil industry has much to answer for, as the Chairman knows all too well. But in looking back at the inequities that resulted from the oil industry's rather privileged status, I think it is absolutely clear that most of these inequities stemmed not from the marketplace but rather from the intrusion of government into the marketplace on behalf of certain segments of that industry. The Chairman knows full well of what special arrangement I am talking about: state prorationing which limited domestic output to barely meet demand so there could be no price competition; the mandatory oil import program which protected domestic crude oil from low-price foreign competition by limiting the volume of foreign oil permitted entry into the U.S.; the oil depletion allowance and other special tax arrangements that promoted inefficiency in the industry and subsidized this inefficiency with taxpayer dollars. Yes, the oil industry has a lot to answer for—but all of these inequitable arrangements were not just the industry's fault.

These arrangements were provided for and created by government officials working had in glove with the industry. They were legal. That didn't make them right, but remember that these were government intrusions into the marketplace which prevented competition. Reacting to these abuses with still more government intervention such as price controls is not the answer.

The point is, Senator Kennedy, most of the bad features I have discussed above are no longer with us. State prorationing ceased when production topped out and every barrel produced here was needed. Spare capacity was needed to make prorationing work and we no longer have spare capacity. Similarly the oil import program was ended in January 1973, when the country experienced severe shortages and needed more foreign oil. You, yourself, Mr. Chairman played a key role in the elimination of the depletion allowance.

All of these steps have helped the independent refiners and marketers. The independents' position abroad is much stronger now because the producing countries have taken over much of the major oil companies' share of crude oil and we can now buy our crude oil at prices almost as attractive as the prices paid by the majors. Here at home, the elimination of state prorationing and the import program have strengthened our posture. As a result, we are now increasing our marketing and refining share and if we are allowed to operate within a free market, we shall continue to increase our market share, thereby providing the consumer with the lowest prices and best services available.

Senator, I would urge you and the other members of this Committee to act favorably on the FEA's distillate price decontrol measure when it comes before you later this month. It might be politically easier not to rock the boat and go with continued controls. That course of action, however, can only lead to the end of competition in this industry; the end to the independent refiner's and independent marketer's prospects for growth.

Senator, we shall need leadership on this issue. There are many in this Congress that philosophically believe government controls can not only take the place of the market but can also serve consumers better than the market. I think your study of the airline industry proves how erroneous such a view can be. I think with leadership from Senators and Congressmen with records like yours perhaps a majority of both houses can be mustered to restore marketplace economics and competition to distillate products. Without such leadership we have little hope of succeeding. I can assure you that the independent sector of the industry will give you all the support it can muster.

Thank you for inviting me to testify this morning. If there are any questions, I shall be pleased to answer them.

Senator PERCY. Mr. Chairman, regretfully, I must leave. Could I ask Mr. Buckley just one question?

Chairman KENNEDY. Certainly.

Senator PERCY. I appreciate very much your testimony. In listening to you, and in reading it, I am somewhat concerned about one impression to which it might lead, that this OPEC price increase has been good. If it is this good and is benefiting so many other companies and other industries, and hired so many people to make exports to the OPEC countries, why not just double the OPEC increase, then, and have all these benefits double?

Second, if it really has been good for the Third World, what happens to countries like Pakistan and India, and Bangladesh and Srilanka, that do not have adequate oil resources, and who don't have commodity prices that are going up, and are just paying the increased price on the fuel. You have not commented on that.

I would appreciate your comment, just to give you an opportunity to round out your testimony and give the other side of it. It's not all a "Henry Ford $5 a day wage benefit" because we are paying this money out to someone else. There we were paying it to our own citizens, right in our own economy and our own country. This is the first time I have been cognizant of all these benefits we are getting from the OPEC price increase.

Mr. BUCKLEY. That's why I put them in there, Senator, because I think there has been a disproportionate stress on the negative. Of course, the kind of price explosion which occurred over such a short period of time is never helpful because it causes distortions, it causes disruptions, it hurts countries in which imported oil accounts for a higher percentage of their energy than we particularly use—it hurts them more than us. It certainly hurt Europe and Japan more than us proportionately.

I don't try to minimize that damage, I am simply pointing out that since it happened, OPEC has acted far more moderately; prices have gone down since the embargo days; and if you look at the kind of inflation rates that have existed in early 1973 to the present time, a great deal of the real value of those 1973 crude prices has been lost to OPEC and they have not made that up.

I think this recent price freeze decision at Bali was a very responsible one. I don't agree with the two other witnesses that OPEC is going to continue pricing at the inflation index level; my own feeling is that they will probably do well to increase prices at about half of the average rate of inflation. So let's say we face a 3- to 5-percent type of annual price increase. And let's not forget OPEC has already lost about a third of what they had 2½ years ago because of the inflation rates that have existed in the countries that use their oil.

I do not mean to paint a totally bright picture, OPEC's action was a shock; it did add to our problems and the problems of the other countries; but I do think we ought to recognize that the operation of our own international monetary system has not been solving the problems that I addressed. India and Pakistan were hard hit by the higher prices, and they could least afford to pay them. They, however, are the kind of countries that have received some meaningful aid from OPEC. OPEC countries are giving a lot more of their GNP—giving—in economic aid than this country is today, and I think that is commendable.

Senator PERCY. Well, I just didn't want to have the record stand unchallenged on some of those premises because we can see what the petroleum price increase did to the cost of fertilizer; what that did to the cost of producing food, and what that did to food prices. Senator Kennedy and I spent a lot of time trying to make up for the fact that incomes are 60 or 70 percent absorbed with just food costs. What do you do, then, when your prices have doubled and tripled? The ripple effect has been disastrous on those least able to absorb it.

Also, you have to take into account that if you increase those prices much more some of the countries, like Saudi Arabia and Kuwait, would have a great deal of difficulty recycling it and finding places to really satisfactorily invest that money.

So, I just didn't want Libya and Iraq to use your testimony in the next go-around as the best evidence they can to say, "Look, the more we get the prices up, the more it was beneficial, and here is testimony before the Joint Economic Committee to prove it."

Mr. BUCKLEY. No. I certainly did not intend to give that impression.

Senator PERCY. I am sure you wanted to bring out one side of the story, but there is this other side, obviously.

Mr. BUCKLEY. That's correct. And certainly, that is one of the reasons why I was so "praiseful" of Congress in my statement because

Congress was asked a couple of years ago, 1½ years ago, to take what was already a very high inflation of energy costs and increase them still further, and substantially. Congress resisted that option, and has opted instead for a more modest domestic price policy, which I think took some courage.

Senator PERCY. Thank you very much, indeed. Thank you, Senator Kennedy.

Chairman KENNEDY. Just a couple of questions, Mr. Buckley. You mentioned the special arrangements that are open to independents; could you describe them more specifically?

Mr. BUCKLEY. Well, if you go into a producing country, one that has completed the takeover, as the former two spokesmen indicated, the major companies are still making some profit on that oil, whether it is in the form of a fee, service fee, or commission, or a "recognition" of their past position, whatever you want to call it. But it tends to be modest, say, 15 to 25 cents a barrel, in that range.

Now, it was not very long ago that an independent company buying foreign crude oil and competing with a major in this U.S. market had an 80 or 90 cent differential—that is it started out that far behind. Today you start much closer by virtue of these changes that have occurred.

It might be, as another example, that we can get longer credit terms in paying for the oil. For every 30 days, roughly, that we can get credit for the oil, that is, in effect a 5-, 6-, or 7-cent a barrel "extra" discount.

We have found that we have been able to negotiate some reasonably extensive credits, helping us with our working capital problems, and in effect giving us oil at a somewhat lower price than it would be if it were just sold on what was a normal credit basis in the past.

Other flexibility one might get would include not having to take delivery or lift the same amount of oil every month under a long-term contract, but rather than being able to take more in one season and less in another, thus gaining flexibility which is worth real money. One might not have to build as much storage, for example. And there are other ways one can save money.

In such rather novel approaches one can end up, actually, very competitive with the major companies that we have to deal with—to compete with—in the U.S. market.

Chairman KENNEDY. Are those open to the majors as well, those same techniques?

Mr. BUCKLEY. Yes, but they are much more difficult for them. They cannot really point to the kind of cash flow problems we can. And certainly, if they are negotiating a long term, large volume deal, it is more difficult for them to get something from the producing country unless the producing country wants to "generalize" it to everybody. Those terms normally get published, and they then establish the norm.

I think producing countries, knowing that the volumes are so large and the majors need those volumes, can take a little tougher line with them, whereas they look at the independent as new outlets, a new experience, dealing with a new company that is not tied to the majors—and they want to do business with us. They see it as a very positive achievement for them to be involved with independents, not only U.S. independents, but Europeans and others as well.

Chairman KENNEDY. Would they get into any situations where, if a major tried to do it, they would risk penalties from the producing countries?

Mr. BUCKLEY. Well, It hink certainly the amount of flexibility a major has is in some ways less than an independent because they do have a much larger total requirement. The penalty usually ends up, as a simple cancellation of the contract. Either you lift your minimum quantity, or you have a quarterly price discussion, and if you can't agree to the new price, the penalty is that you mutually agree to stop that contract and it's over and finished. If you can get along without that oil, or pick it up some place else at a better price, that's fine. If you happen to need it, then it is a lot harder to argue about the price.

Chairman KENNEDY. Thank you, Mr. Buckley. They have a live quorum over on the floor, so we will submit some written questions to you and the other witnesses in addition. As always, you have managed to shed a great deal of light on a rather murky and poorly understood subject. For that, we are very grateful. And I regret that the press of business on the Senate floor does not permit more extensive questioning. Thank you very much; it was nice to see you.

[The following questions and answers were subsequently supplied for the record:]

RESPONSE OF WILLIAM P. TAVOULAREAS TO ADDITIONAL WRITTEN QUESTIONS POSED BY CHAIRMAN KENNEDY

Question 1. Where are Mobil's assets located? Please break down these figures into refineries, marketing, production, and crude contracts into key country or region including both the percentage and gross figures.

Answer. We assume this question is a follow-up to Senator Kennedy's line of questioning pertaining to the amount of Mobil's foreign investment which is in OPEC countries versus non-OPEC countries. Mobil's Consolidated Financial Statements at December 31, 1975 included net fixed assets of $6.6 billion. In the following schedule, the fixed assets are listed by principal activity or function and are segregated by principal geographical locations.

GEOGRAPHICAL DISTRIBUTION OF NET FIXED ASSETS, AS AT DEC. 31, 1975

[In millions of dollars]

Net fixed assets by function	Total, world-wide	United States	Total, foreign	Europe	Africa	Middle East	Far East	Other
Producing	2,095	1,497	598	272	126	6	1	193
Refining	1,583	718	865	636	67	14	148	
Marketing	1,534	782	752	350	94	19	270	19
Other	1,382	725	657	237	340	4	53	23
Total net fixed assets per published statements	6,594	3,722	2,872	1,495	627	43	472	235

Of the $2.9 billion in foreign assets, $150 million is located in OPEC countries. This is slightly more than 2 percent of the $6.6 billion total fixed assets.

In addition to the net fixed assets in consolidated subsidiaries described above, Mobil's Yearend 1975 Financial Statements included $460 million of investments in unconsolidated OPEC affiliates, principally in Saudi Arabia (Aramco), Iran and Indonesia. Mobil's OPEC fixed assets of $150 million plus unconsolidated OPEC investments of $460 million amount to 7 percent of Mobil's total net fixed assets plus total investments in unconsolidated subsidiaries and affiliates.

Crude contracts are not recorded as assets in Mobil's accounts.

Question 2. What percentage of Mobil's exploration and new drilling took place in the U.S., and in non-OPEC countries and in OPEC countries in 1974, 1975, and 1976?

Answer. The following schedule provides a distribution for the years 1974 and 1975 of Mobil's exploration and new drilling costs. Similar information for 1976 is not yet available.

Year	Total, worldwide	United States	Foreign		
			Total	Non-OPEC	OPEC
1974: Percent	100	80	20	10	10
1975: Percent	100	60	40	30	10

The reduction in the percent of expenditures dedicated in the United States between 1974 and 1975 reflects the relatively lower level of U.S. offshore lease sales during 1975.

Once again, these data do not reflect exploration and new drilling expenditures made by unconsolidated affiliates since these are not recorded on our books. Inclusion of Mobil's share in these unconsolidated affiliates' investments would increase the OPEC percent from 10 percent to 11 percent in 1967 and from 10 percent to 14 percent in 1975.

Question 3. Will Mobil and the other ARAMCO parent companies seek to have the service fee they will receive on oil produced in Saudi Arabia expressed as a net after tax service fee in this agreement for sale of the final share of ARAMCO production to the Saudi government?

Would Mobil find its operations—with the proposed 21 cent service fee—competitively profitable if not such accommodation to American tax laws is reached?

Answer. In discussions with the Saudi Government, the fees being negotiated are expressed in terms of a net amount after all Saudi taxes and other charges. This is intended to protect the fees to the greatest extent possible against unilateral imposition of Government exactions over which ARAMCO and its shareholders have no control. The practice is common to many negotiations in international commerce. We expect that the final total fees agreed will be subject to Saudi tax at the rates normally applicable to foreign owned commercial enterprises in Saudi Arabia.

If, for some reason, the credits against U.S. tax for the local income tax paid on income from Saudi Arabia, or any other producing country, were not allowed by the IRS, Mobil and other U.S. companies would be unable to compete effectively with international competitors (e.g., Shell, BP, CFP, ELF-Aquitaine, ENI, etc.) in maintaining long-term relationships with those producing countries and the resulting security of access to oil.

Question 4. If OPEC adopts a system of differential pricing (as was proposed by Algeria at the last OPEC meeting) what would be the impact on Mobil's competitveness and on the prices it is able to deliver to the U.S. consumer?

Answer. To start with, the system of differential pricing recommended by Algeria at Bali and presently being considered by OPEC is concerned only with the prices of various crudes relative to the benchmark price of Arab Light crude. It would not directly affect the benchmark price itself.

The purpose of the Algerian proposal is, simply, to calculate the price of each OPEC crude oil so that its true quality and location values are reflected. If this could be accomplished, then the economic attractiveness of all crudes would, theoretically be the same.

However, in our judgment and experience, any fixed formula is ulikely to keep pace with the inevitable fluctuations in relative values of crudes to individual refineries from time to time. Thus, companies will continue to shop for bargains for their supply system as they presently do. Accordingly, the effect on either consumer prices or Mobil's competitiveness would probably be minimal on average over a period of time.

Question 5. In your oral testimony, you implied that Saudi Arabia would continue to buy the Aramco parent companies as a group—whether or not the ARAMCO trade mark were used. Why would such a joint buying arrangement not be judged in violatio nof U.S. antitrust laws? What is to prevent the Saudi

government from playing each of the parent companies off against each other in futher negotiation for crude entitlements?

Answer. The presently contemplated Aramco revisions would not involve any fundamental changes in the substance of Aramco's operations including sales to its stockholders. The legal forms and the financial consequences will change but otherwise, Aramco's operations will be much the same. Historically, each shareholder has purchased its crude entitlement from Aramco, which was the owner of the crude oil under the concession. We anticipate in the future each of the U.S. companies would continue to purchase its entitlement share from Aramco just as before. Also as before, each owner company will continue to market its crude individually, in the very competitive world petroleum market.

For clarification, the changes taking place within Aramco are twofold. First, the crude oil will (when 100 percent participation finally takes place) be owned entirely by the Saudi government. Aramco will continue as before to be the operator of the facilities but will, thenceforth, earn a fee for services rendered rather than, as in the past, a profit on actual production. Second, we anticipate Aramco's total crude rights will be significantly less than the total crude production within Saudi Arabia. Saudi Arabia will have large and increasing quantities of crude to dispose of directly. The Aramco owner companies will have to compete individually with each other and with any other companies for the right to acquire this crude under whatever terms and conditions the Saudi government establishes.

The second part of your question concerns the ability of the Saudi government to "play each of the parent companies off against each other in future negotiations for crude entitlements".

With regard to this question, we should indeed expect producing governments to bargain hard for the best technical and other help they need in their efforts to industrialize and raise the standard of living of their people. This has been true in the past and will continue to be true in the future. Indeed, the bargaining may well intensify should the worldwide supply situation for petroleum tighten in the decades ahead. The acquisition of crude oil for export to the consuming countries will likely become an increasingly competitive business and we should expect crude supply entitlements to go preferentially to those companies which provide the most effective services. This is of course one of the reasons we so strongly oppose divestiture. Divestiture would enhance the negotiating position of efficient foreign integrated multinationals at the expense of U.S. companies which could no longer offer a competing full range of expertise and services should they be broken up into separate non-associated organizations.

Question 6a. How would Mobil's participation in the International Energy Agency's emergency oil sharing program affect its relationship with OPEC members? Could Mobil's participation in a sharing scheme lead to retaliation by OPEC suppliers?

Answer. Following the May OPEC meeting in Bali the official OPEC press release stated their concern over ". . . actions being taken by certain consuming countries against the interests of Member Countries of the Organization, and decided to take appropriate measures, if necessary to protect the legitimate interests of the Member Countries." If this quotation is referring to the emergency oil sharing and emergency reserve provisions of the IEA, then there may be cause for concern.

Question 6b. Under what circumstances would the emergency program be activated—disruption of a Mid-East pipeline or a severe winter in any one of the IEA member countries?

Answer. The activation of the emergency sharing program is accomplished upon the determination by the IEA Secretariat that a shortfall of oil supplies exists or is likely to exist, equal to or in excess of 7 percent of supplies available in the four quarters preceding the current quarter. Such a finding by the Secretariat is reported to the Management Committee of IEA, at which time the system is activated, unless the Governing Board of the Agency disapproves activation.

The activation of the emergency sharing system is based on a 7 percent shortfall (or probable shortfall) and not on specific events or circumstances which have created the shortfall. In theory then, any sustained disruption of supplies could trigger the system.

Question 6c. Within the framework of the Emergency Oil Sharing Procedures Manual just adopted by the IEA Governing Board, who will calculate reallocation of energy supplies—the participating companies or the IEA member governments? How will pricing be determined?

Answer. The calculation of each Member Country's share of available oil supplies is determined by the IEA Secretariat, according to concepts spelled out in the IEP and procedures developed by the IEA. The basic data used by the IEA in this process is obtained both from the reporting companies and from the members countries. The implementation of the international allocation formulae is done by the industry under the supervision and guidance of the Agency.

Several questions associated with pricing are still under active consideration. The basic principle, however, is spelled out in Article 10–1 of the IEP, i.e., "The objectives of the Program should include fair treatment for all Participating Countries and basing the price for allocated oil on the price conditions prevailing for comparable commercial transactions." This principle is further defined in Section C–I–5–ii of the Emergency Management Manual which states:

> As far as possible, the emergency should not result in higher oil prices for crude or products. This implies:
>
> (*a*) No abnormal profits nor losses should result from the emergency.
>
> (*b*) Similar prices should be charged to affiliates and non-affiliates where movements are determined by the Agency. Similar prices in this context mean prices compatible with the principle of non-discrimination.
>
> (*c*) Term and not spot prices should be used.

While there are still questions of interpretation and methods of monitoring prices, settling differences, etc., the principles are fairly clear.

Question 7. Is the profit on "third party" contracts (i.e., selling crude onto smaller oil companies) the principal motive encouraging the other ARAMCO partners to take more crude than they can use in their own refining and marketing system?

Answer. There are, probably, two basic motivations for participating in the third party crude market. First, to earn a profit. Second, to balance out geographic and quality requirements for specific crude oils.

It would be inappropriate for us to speculate as to the motives of the other Aramco partners.

Question 8. Do you think the U.S. interests are better served in the situation where (a) American companies control through equity participation or long-term supply contracts most of the world crude supplies or (b) American companies control, or have access to, just enough crude to meet U.S. market needs?

Answer. U.S. companies should be encouraged to continually expand their access to varied sources of crude oil so as to maximize the security and flexibility of their supplies and thus minimize the cost to the consumer. It must also be recognized that U.S. oil companies have substantial markets overseas as well as in the United States.

Question 9. In your statement you mentioned that the U.S. Government should support American companies as other countries support their companies. Countries like Japan have supported private companies' negotiations abroad by sweetening the negotiations with aid and trade benefits. Should the U.S. do the same for its companies?

Answer. We do not see any way the U.S. Government could directly use aid or trade factors to help us achieve our basic objectives of obtaining secure petroleum supplies at minimum cost. While aid and trade actions by the U.S. Government might favorably affect the general international business climate in which we operate, any direct involvement of the U.S. Government in the companies' negotiations will run the risk of further politicizing world oil trade, thus making our objectives harder to attain. The moment the U.S. Government becomes directly involved, the commercial negotiations will become political negotiations.

History clearly shows that private companies tend to insulate consumers from political problems and can operate under many circumstances where governments cannot. This strength of U.S. companies helps the American consumer and should be retained. It is important to realize that if a company loses its position in a foreign country due to a negative political environment, it is unlikely that this position can be rapidly regained (or regained at all) even should the political environment become favorable once more.

The support we need from the U.S. Government is of quite a different sort. We need, fundamentally, neutral treatment in both economic and political matters.

First, we need an economic climate that will enable U.S. companies to compete on a roughly equal footing with our foreign competitors. Most importantly, we

need to retain the principle that foreign earnings will not be subjected to double taxation. Certain current proposals to change the foreign tax credit laws would make U.S. companies non-competitive overseas. Such proposals should be defeated.

Second, we need a political climate that recognizes the value that the U.S. companies represent in their overseas attempts to acquire secure supplies of petroleum at minimum cost. In recent years, the quantity and intensity of unfounded accusations against the oil industry has increased alarmingly. These accusations are noted overseas and make our negotiations far more difficult than would otherwise be the case. Foreign governments cannot fully understand how such accusations could be made if unfounded; they also wonder as to whether the U.S. Government will allow the U.S. companies to perform in the future the extraordinarily efficient role they have played in the past as principal energy suppliers to the free world. Perhaps the most valuable support we could receive from the U.S. Government would be a clear and positive recognition of this role and the substantial contribution the industry has made to the standard of living and national product of the United States and the rest of the world. The interests of the U.S. would be best served if criticisms of the industry were limited to those situations where criticism is deserved and if credit were given where credit is due.

Question 10. Several other industrialized countries—Germany, Japan, France, and Italy—have recently sought to develop their own national oil companies. Does this trend to government supported national oil companies amongst our allies affect the position of the U.S. companies in any way? Should not emergence of these companies backed by government expenditures have a beneficial impact on the world oil market by increasing available capital for exploration and decreasing the responsibility of U.S. companies in providing oil supplies for the rest of the industrialized world?

Answer. The industrialized countries you mention, together with most other countries in the world, are increasingly concerned with the acquisition of secure energy sources at minimum long-range cost. One of the strategies these countries are following in pursuit of this objective is an attempt to strengthen the position of their national companies in the international arena. It is ironic that this movement is parallelled by United States actions aimed at breaking up and weakening the very U.S. companies that these other countries are trying to reproduce.

In answer to the first of your two specific questions, we do not believe these actions by foreign governments will seriously affect the position of the U.S. companies. We have competed throughout our corporate history with strong foreign companies and have done so successfully. We see no reason to doubt our ability to compete with new or strengthened companies from other countries. This conclusion, of course, assumes a favorable U.S. economic and political climate as discussed in our answer to Question 9. This conclusion also ignores the unique advantages that are sometimes given to foreign oil companies within their home country markets (through for instance preferential refining and marketing licenses).

In answer to the second part of your question, we agree that these foreign governmental actions should increase the capital dedicated to exploration.

We do not, however, believe that the U.S. companies, as a consequence, should slaken their efforts to discover new petroleum reserves. The best hope for the future is that all companies will contribute to the maximum degree possible in increasing the diversity of the supplies available to the consuming nations.

Question 11. Should the U.S. government resist, or can it, producer country acquisition of tanker fleets? Should teh USG subsidize U.S. owned tanker fleets?

Answer. We do not know how the U.S. Government could resist the acquisition of tanker fleets by producing countries. As a practical matter, the majority of worldwide shipyard capacity is outside of the U.S. and is not subject to U.S. Government regulation or control. Most of the vessels acquired by producing countries have been built in countries such as Japan which have close economic ties with producing countries. There is also a substantial surplus of tanker capacity today and this surplus will likely exist for some years. We suspect that the U.S. Government would have some difficulty in dissuading producing countries from buying or otherwise acquiring tankers from consuming countries, or persuading consuming countries not to build or charter vessels to producing countries.

Mobil has long supported the development of a U.S. owned tanker fleet. To do so will require increased subsidies.

Question 12. Is there any way the U.S. government should begin to think of policies to support its companies so that they would be better able to compete with OPEC national oil companies like the National Iranian Oil Company, Petromin, the Kuwait Oil Company, etc.?

Answer. We assume this question involves possible entry by OPEC national oil companies into downstream refining and marketing activities outside their own country. As Mobil testified, we believe the primary objective of these countries is to expand petroleum investments within their own countries. We see little evidence that these countries are particularly interested in downstream petroleum investments in the consuming countries which would require large investments with relatively small returns and would be subject to the laws of the consuming countries.

Question 13. At the conclusion of your statement you advanced the importance of American companies importing oil into the U.S. Should the USG be concerned if Petromin entered into a joint venture with one of the major oil companies to market and refine within the U.S.? What would be an appropriate U.S. government response to a tender offer for a purchase controlling interest (25 percent-30 percent) in Mobil Oil Corporation stock?

Answer. If such a joint venture can meet U.S. legal requirements, it should pose no problem. In general we think it is consistent with U.S. policies to see the producing countries invest their funds in long-term situations. Such investments would increase worldwide financial stability and lead to greater communality of interests between producing and consuming countries. In the event this investment took the form of a substantial interest in a company domiciled in the U.S. and subject to U.S. laws, it is unlikely that that company's policy could or would be influenced in ways counter to national policy. The U.S. Government has adequate powers which could be experienced on very short notice if the need to do so ever arose.

RESPONSE OF WILLIAM J. TAVOULAREAS TO ADDITIONAL WRITTEN QUESTIONS POSED BY SENATOR PERCY

Question 1. Last week the Organization for Economic Cooperation and Development (OECD) unveiled a code of conduct for multinational corporations and a code of Government responsibilities to firms. I am particularly interested in having your comments on these two codes. Specifically, I am interested in: (*a*) Whether the disclosure requirements are adequate; (*b*) whether there is adequate guarantee of confidentiality for the information collected; and (*c*) whether the codes will accomplish their stated purpose.

Answer. As a matter of principle, we support the concept that codes of conduct both for multinational corporations and governments, can hold the promise of clarifying and encouraging responsible business behavior. I believe you cannot legislate international morality in any one country; to do the job, it has to be done on a world-wide basis. This kind of code warrants our consideration and, if it can be effective, our support.

The recently adopted OEDC code is voluntary and thus not necessarily binding on member governments and we do not know how it will be interpreted in practice. With respect to disclosure requirement, member countries have the ability to obtain any information they need from any company which would continue to do business within their jurisdiction.

Question 2. Assuming that one solution to the global energy shortage should be to encourage new energy production in the oil-importing countries, what steps do you believe the U.S. could or should be taking to ensure that its technical expertise is used to best advantage for solving this global problem?

Answer. First, it should be recognized that U.S. technical expertise in petroleum resides within its major corporations. This is not simply a matter of blue prints and equipment; in large part, it is based on organization and the interaction of people working together. One of the most important assets of the U.S. international oil companies in dealing with producing countries is the technology which they possess. In large part, this is why the Governments of OPEC want the Majors to locate, manage, and develop their petroleum resources. This is part of

the foundation of whatever strength we have in negotiating with OPEC members and it is a strength which cannot be transferred to other institutions.

It is important, thus, to emphasize that divestiture would both split up these organizations and separate the people who compromise the expertise, as well as weaken the capability for ongoing research. In one sense, the answer to your question is: dispense with the idea of divestiture and permit the oil companies to continue to seek the opportunity to develop new energy sources wherever these exist. In this way research and development would be able to keep the U.S. a leader in technology and thus provide the expertise for development of domestic energy supplies.

Question 3. Along the same lines, what steps should we be taking to ensure a better cooperative international approach on energy research and development?

Answer. In a very real sense, the international corporations are an important part of international approaches to energy research and deveolpment. This is true not only for petroleum companies, but also for nuclear equipment manufacturers, mining companies, and even extends into some aspects of solar energy. For example, Mobil is engaged in a joint venture with Japanese companies on a project in Japan aimed at improved technology for converting sunlight into electricity. We see no need for any new steps since there is already wide interaction among countries, both through commercial institutions and through binational and multinational government organizations.

Question 4. The Overseas Development Council, and more recently Presidential candidate Jimmy Carter, have suggested convening a World Energy Conference, modeled after the World Food Conference held in Rome in 1974. Please comment.

Answer. World conferences of this sort have the potential of either becoming an exercise in rhetoric, or a forum for confrontation. Before considering convening such a conference, careful thought should be given to what it can be expected to accomplish. In the real world a few countries have the energy resources; any confrontation with them is therefore fraught with danger.

Question 5. How important is the cooperation of the socialist countries of the world in tackling the world energy problems, and what can be done to increase their participation in solving the global energy crisis?

Answer. The contacts we have had with the socialist countries indicate they want our technology. They are experiencing considerable difficulty in developing their own resources, while their energy needs are growing. Therefore, we see little prospect of their helping the Western World in a significant way.

Question 6. How effective are the present international agencies for dealing with the energy crisis (e.g., the IEA and the Energy Commission of the CIEC)? Should the United States be taking steps to make these organizations more effective?

Answer. There is a real danger that international agencies, such as the IEA, may become a focal point for confrontation. Such agencies can never play a purely non-political role. During the last embargo, the oil companies were able to quietly and effectively allocate available supplies on an equitable basis. I would prefer that method in the future, rather than the creation of a focal point for confrontation. However, if one is willing to risk confrontation, one must look to what he has available to back up his position if it occurs. I would not, however, that now and for the intermediate future—say ten years—OPEC, and not the international agencies of the consuming countries, will have control of supplies.

Question 7. Are we doing enough to help lesser developed countries exploit the solar energy which is clearly abundant in those areas?

Answer. The conversion of solar energy into more useful forms in significant amounts at a competitive cost is still in the research and development stage. As these progress to the point where economic techniques and devices are developed, the poorer nations of the world will not be among the first to use solar energy because it would be relatively expensive. The industrialized nations will have to aid the poorer nations if they are able to utilize solar energy.

Question 8. Please comment on S. 3424, the proposed Energy Conservation Act of 1976, which was recently introduced by Senator Kennedy.

Answer. In broad principle, we endorse encouraging conservation. It is perhaps inevitable that incentives to encourage conservation often benefit those who do not need the aid and that some incentives are misused. Moreover, policing the program places a large administrative burden on the government. We assume those who drafted this bill have considered these problems and tried to deal with them insofar as was possible.

Question 9. Unless this country is to become a socialist one, perhaps the most effective way to encourage increased energy production is to create conditions which attract investment capital into energy. Do you agree with this statement? Does it describe present U.S. energy policy?

Answer. We certainly do agree with any statement saying "the most effective way to encourage increased energy production is to create conditions which attract investment capital into energy."

No; this statement does not describe present U.S. energy policy. To demonstrate this last point, one need not look further than the interminable delays in de-regulating the price of new natural gas, the snail's pace at which prospective acreage on the outer continental shelf is being made available, and the myraid of bills before Congress which would penalize, restrict, and even dismember the petroleum industry.

Question 10. Why are we more dependent upon imported oil now than we were at the time of the Arab boycott? What U.S. Government policies could help reverse this trend? Do you agree with Sarah Jackson's article in the Columbia Journal of World Business (Fall, 1974) that in order to attain energy independence "the United States should remove all stimuli to the development of foreign oil sources that might compete with its domestic priorities?"

Answer. I strongly disagree with the statement quoted from Sarah Jackson's article and with many other points in that article which was written two years ago. It is not simply hindsight which supports our objections; it is also that such opinions fail to recognize the realities of today's world. Pragmatically, there is no alternative in the next several years to the U.S. being dependent upon foreign oil, which will be increasingly met by oil coming from Arab countries. The American companies, if properly supported, should be able to continue to secure supplies which America will need to import and to do so at the best price available. Failure to support American companies will only create a vacuum into which foreign companies would quickly move. There is no irreconcilable conflict between the search for new oil supplies in the U.S. and the development of foreign supplies by American companies. Limiting factors are incentives and opportunities. In the U.S. the pace of exploration and development is set by the rate at which government opens new areas for exploration and by the kind of incentives allowed by government regulations. Beyond oil, it is extremely important to recognize that the U.S. has a scarcity of deliverability of energy and not a scarcity of basic energy resources. Consequently, we must with all deliberate haste reach a consensus on ways in which we will utilize—with appropriate safeguards—strengths we have in coal and nuclear energy. In this way, we would be able to look beyond the next few years to the time when the U.S. can start becoming less dependent upon imported oil; in the meantime, our dependence must be recognized and the strengths of American companies in securing these supplies must be maintained.

Question 11. What percent of your crude oil supply is from foreign sources?

Answer. In the U.S. approximately 40 percent of Mobil's crude oil supply is from foreign sources, including Canadian.

Question 12. Has your company been buying more oil than you desire in order to maintain good relations with producing countries for long-term oil supply?

Answer. The amount of crude oil that our company obtains from the producing countries is strictly a function of our customers' requirements. Ours is a very high volume business and thus it is impossible to deal with quantities substantially different from our downstream needs. The only way in which we could buy more oil than we need from the producing countries would be to reduce production in the consuming countries. But production in the U.S. has been running at capacity, and major investments continue to be made in Alaska and the North Sea, even during the severe world-wide recession which cut OPEC production.

Question 13. Are you encouraged by the action or lack of action taken at the recent OPEC meeting at Bali?

Answer. We welcome the decision made at the recent OPEC meeting at Bali to hold prices constant at least for a little while. A major factor in that decision was the position taken by Saudi Arabia. Thus, we take very seriously King Khalid's statement that continued inflation in the prices of their imports of manufactured goods will lead to further crude price increases.

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RESPONSE OF JERRY MCAFEE TO ADDITIONAL WRITTEN QUESTIONS POSED BY CHAIRMAN KENNEDY

Question 1a. What should be the U.S. Government policy toward OPEC investment downstream?

Answer. Downstream expansion is a logical policy choice for those OPEC governments which want to diversify and industrialize their economies. From an economic standpoint, domestic processing and transportation of indigenous oil and gas resources can enable OPEC nations to derive the maximum value from what, in many cases, is their single important source of national income.

The ambitious plans of several OPEC governments for investments in their own country in downstream phases of the oil business do not at present pose a political or economic threat to the U.S., or to the economic viability of U.S. companies. Consequently, a specific U.S. Government policy directed at an alleged OPEC "downstream challenge" is not necessary and would be counterproductive. OPEC nations would probably interpret such a policy as a discriminatory and politically motivated ploy to curb their development.

Nevertheless, OPEC activities in the area of downstream operations should be observed closely in the future to ensure that OPEC governments do not use their increased oil revenues to subsidize downstream enterprises, which would put companies in consumer nations at a competitive disadvantage in world energy and petrochemical markets. Should they attempt such practices, existing anti-dumping regulations should be utilized and are expected to be adequate.

If downstream investments by OPEC countries are made in the U.S., existing U.S. legislation requires foreign investors intending to purchase more than 5 percent of the equity shares of any American company to file information as to their intentions with the Securities and Exchange Commission. This should be adequate notice for the U.S. Government to initiate suitable remedial measures if needed.

Just as our government and the U.S. private sector have for years argued for free entry by our companies overseas, so too, should we adhere to the same principle in this country. Such principles have been spelled out in the recent declaration of OECD member governments on international investment and multinational enterprises. In addition, a recent U.S. Treasury Department study says that no OPEC investors "have a desire to acquire and/or control major U.S. companies."

Question 1b. Should we begin to consider policies that would support U.S. companies favorably in competition with OPEC national oil companies?

Answer. It is most important that the U.S. Government support its private sector operations and investments overseas. This involves tax regulations which will maintain U.S. companies on a competitive tax basis with foreign companies. Specifically, this means that the foreign tax credit would be maintained and U.S. taxation on the earnings of foreign subsidiaries owned by U.S. corporations should not be accelerated prior to repatriation of earnings in the form of dividends. Also, the ability to expense exploration and production costs should be maintained for U.S. tax purposes. Export incentives for oil field equipment and process plants should be established on a basis comparable with incentives provided by other governments.

It is equally important that the U.S. Government evidence support of its private sector activities. As long as it maintains an overt adversary role, foreign governments will conclude that they, too, can adopt such a role and frequently do so, at the expense of the U.S. investor and taxpayer.

The U.S. Government's support of American private industry is necessary not merely because of OPEC encroachment, but also because of competition by European and Japanese companies which receive substantial governmental encouragement, often in the form of material incentives that enable such companies to compete advantageously in the world market.

Question 2a. In light of Gulf's need to purchase one-quarter of its oil from other companies (through "Third Party" contracts) will Gulf's position become more competitive when the producing country oil companies reduce the amount of oil sold to their former concessionaires to an amount nearer to these companies' actual needs (i.e., when Gulf can buy all of its oil directly from the producer governments)?

Answer. Gulf's crude purchasing practices are aimed at finding the desired quantities and qualities of oil at the lowest possible prices. In some instances we purchase the same grades of crude from commercial companies and from the

producing nations' oil agencies. Pricing in all cases are on commercial terms and reflect the oil's competitive market value.

In certain countries where some form of relationship still exists between the producing country oil agencies and the original concessionaires there are allowances to the concessionaire for continued technical service and operation of the fields as well as marketing of the crude where it is in excess of the old concessionaire's own refinery requirements. Limiting the amount of oil sold by the producing country to the former concessionaire to its own consumption would not necessarily affect individual crude oil prices, since all end users continually seek competitive prices, and any differential pricing between suppliers is ultimately corrected in the dynamics of supply and demand.

Question 2b. Should the U.S. Government encourage a country like Saudi Arabia to move more rapidly in this direction?

Answer. No. Crude oil exports are the most important factor in the economies of most oil exporting nations. Thus, their oil policies are guided by two major considerations: (1) Achievement of national aspirations, and (2) maximizing their long term income from oil exports, and from investments based on their oil revenues.

Oil exporting countries will utilize U.S. or other oil companies to the extent that they find such companies make a contribution to efficient discovery and production of oil.

The international petroleum industry is still the most efficient mechanism for finding, producing and delivering the supplies of crude oil which the world's industrial economy needs. This has again been demonstrated by the relatively more efficient operations of the private companies in Argentina as compared with government operations there, and by the recent decision of the Brazilian government to invite the participation of foreign companies in domestic oil development. Programs which make it more difficult, or which reduce the incentive, for the industry to provide its services will ultimately result in more limited supplies and higher costs to the consuming nations.

Question 3. Would the proposed divestiture bill have any effect on Gulf's overseas operations?

Answer. Yes. At this time, it is not possible to quantify, or even determine accurately, what those effects would be. However, it is likely that they would be very significant.

The role of the international logistics system for moving oil by ocean transportation from a variety of sources to a large number of consumers is not addressed in the divestiture bill. This system provides the linkage between many sources and qualities of crudes and the requirements of innumerable markets throughout the world. It functions primarily because it involves people with extensive experience in the highly specialized business of making commercial and operational arrangements on short notice and on a worldwide scale. To accommodate the never ending series of unforeseen equipment failures, weather changes and fluctuating economic conditions, requires a close linkage between crude sources and the refiners and their markets. Disection of this linkage, as proposed by divestiture, would adversely impact on the ability to make the necessary supply adjustments. The most direct result would be that the consumer would be more likely to experience supply disruptions and higher prices. Such a situation would be an advantage to those oil exporting nations interested in increasing their crude oil prices. It is important to recognize that the consuming nations have considerably more at stake in maintaining the present distribution system than do the producer nations.

In the case of producing countries, under divestiture no major American entity could provide services and technology in more than one of the following functions—exploration and production, pipelines, or refining. As a result, no major American entity could compete on equal terms in the development of large downstream complexes with British, Dutch, French, or Japanese integrated international oil companies. Worse still, in many cases such American entities would not be invited to participate in bidding for the integrated back-up service such countries require for their operations. Normally, such services encompass all phases of exploration, production, transportation, refining and marketing. The producing countries prefer to deal with one integrated, internationally recognized entity which can meet the country's requirement in all the above mentioned fields. They do not like to deal with small entiies. If no one American entity could provide such an overall service, the job would go to a European, Japanese or other foreign integrated company. Consequently, the position of the American

companies in the producing countries would be expected to be subject to significant attrition. This would additionally restrict the export market for U.S. produced equipment for installation in such facilities.

It is unlikely that foreign governments, such as Great Britain and Canada, where major U.S. companies have integrated operations, would permit the restructuring of large segments of their vital energy industry by the United States Congress. Such revision, of course, would be mandatory in the case, for example, of Gulf's operations in Great Britain, where our company participates both in exploration and production, and in marketing and refining. The guarantees of the present Gulf Corporation have been utilized to provide funds for these operations, to insure stability of external crude supplies, and to provide those financial and technological resources needed to insure efficient operation. The divestiture legislation would terminate the availability of those guarantees and assurances.

Question 4. Increasingly OPEC countries are insisting on a minimum off-take provision in new crude contracts with stiff penalties—often rapid phase out—on non-compliance. How will these provisions affect Gulf's ability to shop around for crude over the long run?

Answer. This question should be reversed, as the phase-out provision in the crude oil off-take agreements is to the purchaser's advantage, and he can utilize it as long as there is a worldwide crude oil surplus and a variety of crudes available. Such provisions have been included in the contracts to permit a rational disengagement on commercial terms. The net effect is to allow the companies to purchase crude oils at competitive prices.

Upon presentations to producer governments by our company that their crude prices were not competitive, Gulf was able on two separate occasions this year to obtain price reductions. Our arguments were strengthened by our ability, through the contract phase-out provisions, to reduce the volume of crude oil to be purchased.

Some crudes are highly desirable, others are not in high demand, and generally there is an overall surplus of producing capacity. This situation, coupled with the phase-out provisions in the crude purchase contracts, enables the oil companies to quickly eliminate a crude supply that is overpriced and to switch to crude oils where the selling prices more correctly reflect their current market value. The competitive nature of the international crude oil market requires that the oil companies have this flexibility.

Question 5a. In your statement you were critical of government-to-government involvement in acquisition of crude. Do you think the Saudi Arabian Government's willingness to act as a moderating force to keep prices down in the recent OPEC meetings has been a function of its close ties with the Aramco parent companies or of its special relationship with the U.S. Government?

Answer. Neither. The position taken by the Saudi Arabian Government reflects its own internal, political and economic objectives. Saudi Arabia has traditionally recognized that a healthy world economy is essential to its own welfare and development. A healthy economy throughout the free world provides both a stronger market for Saudi crude and more attractive investments for its surplus funds. In short, the Saudis have appreciated the fact that the free world must prosper economically and be politically stable if Saudi Arabia is to prosper and is to enjoy its own political stability. The Saudis have also recognized that they must enjoy economic and political stability if they are to carry out their own plans for becoming an industrial nation. Thus, it has been clear to them that increases in OPEC prices above a reasonable rate could be detrimental for their own aspirations.

In addition to the above reason, Saudi Arabia has an even more direct incentive to keep increases in oil prices to moderate levels. The OPEC countries currently are producing at about nine million barrels per day less than their productive capacity. The Arab OPEC members are producing at about 30 percent below capacity, but the non-Arab members are less than 15 percent below capacity. Saudi Arabia alone is carrying about one-third of the present shut-in capacity. The reason for this is that the Arab countries generally have a large oil production and a small population, thus they can stand more shut-in capacity without experiencing financial distress. If OPEC increases oil prices sharply, it will restrain, or perhaps even decrease, oil demand, and Saudi Arabia will have to bear a disproportionate share of any further reduction in OPEC's production. Since Saudi Arabia is unlikely to get a proportionate increase in revenue from

an oil price increase, and could even suffer a decrease in revenue, their representatives have a real and present incentive to keep OPEC crude oil price increases down to moderate proportions.

Question 5b. Could the Aramco parent companies' crude contracts with Saudi Arabia withstand a major shift in U.S. policy toward that country? Alternatively, does the reliance of our major U.S. based multinational companies on Saudi crude supplies limit U.S. Government policy options with regard to Saudi Arabia?

Answer. It is the reliance of consuming nations on Saudi Arabian crude which impinges on the policy options of the U.S. Government, and not the reliance of Aramco on that crude. It is clear that the overriding dependency in regard to Saudi Arabian crude oil is the dependency on that source of energy by European and Asian nations which import large quantities of Saudi crude, and for whom this crude is a large proportion of their total requirements. Should the U.S. Government initiate actions which might lead directly or indirectly to uncertainties in availability or increases in prices, the governments of the importing nations would undoubtedly take bilateral action directly with the Saudis. We do not believe that they can accept a situation where the U.S. Government, for its own political reasons, acts as an intervenor in their crude supplies. Thus, the major consideration of the U.S. Government should be the reactions of the Saudi Arabian Government and of the consuming governments to changes in U.S. Government policy options regarding Saudi Arabia, and not the impact on Aramco.

Should the U.S. Government adopt policy options which would restrict Aramco's ability to perform its present functioins, we have no doubt that the Saudi's and their major customers would promptly establish alternative programs to provide these functions on a basis as close to their present efficiency as possible.

Question 6a. How would Gulf's participation in the International Energy Agency's emergency oil sharing program affect its relationship with other OPEC members? Could participation in such a sharing scheme trigger retaliation?

Answer. The IEA has been established through the efforts of the U.S. Government, and the participation of U.S. oil companies in the IEA Program is at the request of the U.S. Government. As a result, we feel that participation in the IEA Emergency Oil Sharing Program could trigger some risk for the oil companies but would trigger a larger risk for the participating governments. The risks of the oil companies will be moderated to the extent that their crude oil flexibility allows them to deal in a broad range of OPEC and non-OPEC crudes. Similarly, the risk to the U.S. is moderated to the extent that it imports crudes from a wide range of producing countries, and more importantly, to the extent that it provides an increasing portion of its energy requirements domestically.

Question 6b. Under what circumstances would the emergency sharing program be activated—the disruption of a Mid-East pipeline or a severe winter in any one of the IEA member countries?

Answer. Broadly speaking, the Emergency Sharing Program is triggered when the IEA group of countries or any member country loses 7 percent of its total supply of crude and products. The only event that could result in such a loss with any degree of probability is concerted political action by a number of OPEC nations.

The disruption of a Middle East pipeline or a severe winter in any one of the IEA countries are normal types of events that have happened and will continue to happen routinely. Such events have traditionally been corrected by minor changes in total worldwide supply and distribution scheduling and changes in production levels by the major international oil companies. Although the changing of production levels is no longer an option available to the companies directly with the surplus of crude oil production capacity available in the world it is highly unlikely that sufficient additional production to cover such problems would not be forthcoming from producing countries in response to revised oil company purchase nominations. We have been through two winters since the embargo with some of the most erratic changes in production levels that the oil business has ever seen and the customers have continued to be supplied.

Question 6c. Within the framework of the emergency oil sharing procedures manual just adopted by the IEA governing board, who will calculate reallocation of energy supplies—the participating companies or the IEA member governments? How will pricing be determined?

Answer. The international supply and distribution of crude and products is one of the most highly complicated businesses in the world, and the IEA allocation program is perhaps the best attempt thus far to develop a single easily

definable method of sharing oil in an emergency. According to the IEA program, during an emergency the individual oil companies initially are to develop their own international supply and allocation procedures as has been done in all the previous politically motivated supply disruptions. However, for the first time the major oil companies will be allowed to talk together, under procedures established by IEA participating governments and particularly the U.S. Government, and to adjust the supplies between companies through traditional commercial trading relationships with the objectives of satisfying IEA countries'. respective supply rights and obligations as defined by the IEA Secretariat. The resultant plan will be given to the IEA by the companies and, if approved, will be used as developed. The IEA has the ability to override the companies decisions and make changes to the allocation plan.

At this point in time, the question of pricing of crude and transportation in IEA forced solutions, which incidentally should be minor adjustments to the overall plan, has not been finalized. In all probability, the mandated changes will occur at price levels for both crude and transportation that were in effect prior to the change with appropriate allowances for pass thru of mandated producing government increases.

Question 7a. Do you think U.S. interests are better served in a situation where American companies control most of the world crude through equity participation or long-term supply contracts?

Answer. American companies do *not* control the world's crude supplies. The producing countries control the production rates, the prices, and designate through contractual relations the companies which are to provide the distribution service. The consuming governments have the power to control the type and quantity of crude used and to regulate product prices.

As pointed out in the answers to questions 2b and 7b, it is very much to the advantage of the U.S. that the major U.S. oil companies continue to play a leading role in the international oil industry. This will only be possible if they are free to maintain vertically integrated organizations, are free to compete for business throughout the world, and are free to utilize equity participation, supply contracts or alternate arrangements as specified by the producing governments.

It is important to realize that producing governments could readily find European or Japanese companies interested in acquiring equity participation should the American companies be prohibted from holding such participation by the U.S. Government. Such action by the U.S. Government would weaken the position of the U.S. in the world petroleum picture and would have little effect on the amount of crude oil handled on an equity basis. In addition, it is likely that such replacement of U.S. companies would result in some decrease in exploration and supply efficiency and a corresponding increase in costs, which the OPEC govenments would pass on to the consumer.

As previously pointed out, all of our supply contracts now have phase-out provisions, and certainly inflexible long range supply contracts are incompatible with the present world oil supply situation.

Question 7b. Or do you think U.S. interests are better served in a situation where American companies control, or have access to, just enough crude for the U.S. market?

Answer. The U.S. interests are not only clearly served by American companies having wide access to volumes of crude in excess of U.S. requirements, but this is essential if the U.S. is to maintain any ability to moderate the effects of a future embargo or producer government imposed supply disruption. To have the American companies have access to only enough crude for the American market would lock that market into a limited number of suppliers and a limited range of crude qualities. This would make the U.S. highly vulnerable to a selective embargo imposed by the governments producing these crude oils.

During the 1973-1974 embargo, the distribution capabilities of the major international oil companies enabled them to maintain a reasonable flow of oil to the individual consuming nations despite almost insurmountable and conflicting reactions from both the consumer and producer governments. Each of the producing countries enforcing the embargo had different rules on production levels and different levels of restrictions on a variety of consuming countries. Restrictive crude oil allocation was practiced in the consuming countries, and in Europe particularly normal transshipment through several countries to inland locations was halted by various consuming countries. Because each of the major oil companies had wide and diverse sources of crudes and extensive tanker and

terminalling facilities, they were able to alter supply plans drastically and to meet successfully the constraints of both the producing and the consuming nations.

If the U.S., which now imports crude and products equal to about 18 percent of the available productive capacity of OPEC, were to restrict American oil companies to handling only that volume of foreign crude, there would be two serious adverse consequences. First, the American oil companies would no longer be able to support their extensive international tanker and terminalling facilities and distribution organization. A major portion of these would have to be sold to the foreign oil companies who would take over the handling of those crudes, or would have to be scrapped. The second consequence would be that the U.S. oil companies would have their access to alternate crude supplies severely limited. During a supply disruption they would no longer be in a position to switch supply points and adjust delivery schedules, but would have to enter into negotiations with alternate suppliers, and at a time when any such negotiating position would be extremely weak. The combination of these two consequences would critically weaken the position of the U.S. in offsetting a future embargo. This weaker position, in itself, would tend to encourage the imposition of an embargo.

Question 8a. If OPEC adopts a system of differential pricing (similar to that proposed by Algeria at the last OPEC meeting), what will be the impact of Gulf's competitiveness and on the prices it will be able to deliver to the consumer?

Answer. The international oil business has always been operated on a system of differential pricing. This pricing is determined by the dynamics of the market and reflects such things as consuming government pricing policies on products, environmental controls that restrict sulfur emissions, yield differentials from the crudes related to their gasoline and distillate versus heavy fuel producing qualities, and transportation differentials which reflect the location of the crudes with respect to the consuming countries and the current transportation rates. Various crudes in the world are being produced at restricted levels at this time simply due to the fact that those producing nations do not accept what the world markets are saying with respect to the values of the crudes. Pricing formulas, such as the one referred to in the question, have been in existence since oil has been moved internationally, and each of the major international oil companies has complex transportation and refining models developed to evaluate the various crude differentials. These differentials are not fixed but change, sometimes drastically, as conditions, particularly the tanker market, change throughout the world.

As long as the international oil companies maintain significant distribution capabilities and their access to a large number of crudes, they will successfully shop for those crudes which present the most attractive value at any given time. Such a dynamic and flexible situation is the most effective way of providing the lowest available prices to the consumer, Any steps which will limit this flexibility or which would tend to structure the system more highly will result in higher prices to the consumer.

Question 8b. What should be U.S. Government policy toward joint ventures between major U.S. oil companies and national oil companies of the OPEC producing countries?

Answer. Joint ventures with producer governments or government entities are a natural outgrowth of the old concession era and it is in the interests of both oil importing and exporting nations that they be encouraged. Gulf, over the last 20 years, has developed joint ventures with national governments and national oil companies in a number of producing and consuming countries around the world. On a purely commercial basis, some of these have been successful, others have not.

Those U.S. Government policies, which have applied in the past to such joint ventures, should continue to be applied in the future. The existing body of U.S. legislation on antitrust, anti-dumping and related measures is adequate to insure that no projects are developed which would seriously restrain trade or result in important political problems. A large proportion of such joint ventures, either in the U.S. or abroad, will be advantageous to the participants, to their governments, and to international trade in general. Constraints to their development should be minimized.

Question 8c. What should be the appropriate U.S. Government response to a tender offer for controlling interest in Gulf stock by a major OPEC nation?

Answer. Gulf feels that the likelihood of an OPEC nation seriously attempting to acquire the controlling interest in an important U.S. company is remote. Of the OPEC nations, only Saudi Arabia, Kuwait and the United Arab Emirates have a net cash flow sufficient to provide funds both for their internal requirements and adequate for purchasing a controlling interest in a large U.S. company. These nations are deeply involved in their own industrial development and are not able to spare the manpower to effectively manage or control such a U.S. company. Moreover, they recognize that such an investment could restrict their policy options in dealing with the U.S. The prudent course for the U.S. Government to follow would be to monitor such developments through the application of the registration procedure mentioned in 1a above and to deal with each case on its own merits. Diplomatic discussions should be utilized should there be any specific acquisition proposals. Given such a procedure, Gulf feels it unlikely that there will be any need for more formal or legislative action.

A number of oil exporting countries are generating funds surplus to their current needs, and of such magnitude that these funds must be invested in relatively stable foreign nations. The U.S. should welcome such investments. When made through established procedures and when distributed throughout our economy, they support our domestic economy, give the investing nation a stake in our maintaining a strong economy, help our balance of payments and result in a stronger community of interest between the investing nations and our own. Such benefits can be achieved without incurring any real risk that the investors will abuse their position.

RESPONSE OF JERRY MCAFEE TO ADDITIONAL WRITTEN QUESTIONS POSED BY SENATOR PERCY

Question 1. Last week the Organization for Economic Cooperation and Development (OECD) unveiled a code of conduct for multinational corporations and a code of government responsibilities to firms. I am particularly interested in having your comments on these two codes. Specifically, I am interested in: (*a*) Whether the disclosure requirements are adequate; (*b*) whether there is adequate guarantee of confidentiality for the information collected; and (*c*) whether the codes will accomplish their stated purpose.

Answer. Gulf commends the Committee on International Investment in Multinational Enterprises of the OECD on developing the Guidelines for Multinational Enterprises and the Declaration of National Treatment. These represent the important first steps in establishing conditions which will materially aid in eliminating abuses involved in the conduct of international business. While we feel that in all likelihood such abuses involve only a very small portion of the innumerable business transactions carried out, we do feel that it is most important that such abuses be eliminated as rapidly as possible. The dedication to accomplishing this, as evidenced in the Guidelines and the Declaration, must be adhered to by both governments and companies, if this voluntary program is to provide positive results. We concur that the voluntary approach is the correct one, and we believe that, as experience is gained with it, means for utilizing it more effectively will be determined and confidence in it will be strengthened.

The Guidelines outline a rather extensive information reporting program on the part of the multinational enterprises. While Gulf now publishes much of the information outlined, significant care will have to be exercised to insure that the competitive position of the enterprises is not compromised by requesting publication of confidential or proprietary information, and it is important that all enterprises, both national and multinational, be requested to supply comparable information, and that the laws of the United States and those member countries of the OECD, with respect to antitrust compliance, are not compromised or violated by such disclosure.

Question 2. Assuming that one solution to the global energy shortage should be to encourage new energy production in the oil-importing countries, what steps do you believe the U.S. could or should be taking to ensure that its technical expertise is used to best advantage for solving this global problem?

Answer. Providing encouragement for new energy production in all non-OPEC countries, including the oil-importing countries, is an indispensable solution to the global energy shortage. However, exploration for new energy resources is a hazardous and highly expensive undertaking. Accordingly, the steps which the United States should take should aim at providing potential investors with commensurate incentives and rewards. Specific steps envisioned are as follows:

(1) Insure that U.S. companies have the same competitive position vis-a-vis foreign competitors as regards taxation and all other fiscal incentives provided by foreign governments.

(2) Tax legislation should encourage exploration and production worldwide. The Tax Reduction Act of 1975 included provisions adverse to the petroleum industry; these, and specifically Section 601 thereunder, should be repealed. Other adverse provisions now being considered in the Senate to erode further the foreign tax credit and to eliminate the right to deduct intangible drilling costs will only inhibit exploration by U.S. companies and ultimately result in their being non-competitive with foreign companies such as British Petroleum and Royal Dutch Shell. Such provisions should be strenuously resisted. Incentives for capital formation such as the Investment Tax Credit and the rapid amortization of capital investment should be made available for investment in the exploration and production activities worldwide.

(3) Provide political risk insurance for those U.S. companies operating in developing countries. Such insurance could be in the form of guarantees by the World Bank or other international financial institutions against nationalization or fiscal expropriation. The recent proposal by Secretary of State, Dr. Henry Kissinger, in Nairobi, Kenya, at UNCTAD to create an International Resources Bank, would be such an approach.

Question 3. Along the same lines, what steps should we be taking to ensure a better cooperative international approach on energy research and development?

Answer. An extended international energy research and development program should be implemented to address this global need. This effort should be made under umbrella agreements with appropriate international organizations such as the International Energy Agency and the several regional groups like OECD. The U.S. contribution to this effort should be coordinated by ERDA with participation by a number of U.S. organizations including universities and industrial and government laboratories.

Specific programs, identified by international technical councils, should be implemented with government assistance, including technology transfer by the encouragement of extensive interaction among industrial, academic and government scientists and the development of cooperative agreements among counterpart groups.

It is expected that such international programs will require considerable time to be organized and become productive. During this formative period, domestic programs should proceed as expeditiously as feasible.

Question 4. The Overseas Development Council, and more recently Presidential Candidate Jimmy Carter, have suggested convening a world energy conference, modeled after the World Food Conference held in Rome in 1974. Please comment.

Answer. Such a conference would necessarily be directed at broad generalities relating to the world's energy problems, rather than at specific, constructive programs. We feel that at present the CIEC provides an ideal format for international energy discussions and that other arenas for such discussions should be discouraged at this time until it is determined that CIEC has had a chance to function as chartered.

Question 5. How important is the cooperation of the socialist countries of the world in tackling the world energy problems, and what can be done to increase their participation in solving the global energy crisis?

Answer. We feel that it is important that all countries increase their energy supply concurrent with establishing sound programs on energy conservation. However, we are not sure that the Eastern Block countries would be able to constructively participate in the solution of the global energy crisis on a non-political basis.

The policy which would do the most to encourage their participation in solving the global energy crisis would be to treat these countries the same as other countries, and encourage freedom of trade between socialist and non-socialist countries.

Question 6. How effective are the present international agencies for dealing with the energy crisis (e.g., the IEA and the energy commission of the CIEC)? Should the United States be taking steps to make these organizations more effective?

Answer, The IEA is in our opinion the best available vehicle which the consuming nations have put together under today's conditions. The charter of the

IEA establishes a means of protecting the combined interests of the member nations. The oil industry has been asked to furnish advice on energy matters where the IEA recognizes its limited expertise. These matters are, of course, the technical and business related aspects of the problems which will arise in the event of an emergency.

The IEA has been able to utilize, after careful deliberation, most of the recommendations made by the Industry Advisory Board. If the IEA continues in this vein, Gulf thinks that it will be an effective organization.

See the answer to question 4 in relation to the CIEC.

Question 7. Are we doing enough to help lesser developed countries exploit the solar energy which is clearly abundant in those areas?

Answer. Currently the bulk of the solar energy R&D programs in the U.S. is under the aegis and sponsorship of ERDA and other government agencies. In the near term, a considerable portion of the expenditures will involve construction and operation of demonstration facilities of various sizes to test and evaluate devices and new concepts. The U.S. government could demonstrate its spirit of international cooperation in energy research and development by offering to construct some of these demonstration units in lesser developed countries, particularly in tropical areas. These installations would be viewed as technical development projects and would be done jointly with appropriate government technical agencies and universities in the host country.

Most of the solar energy R&D programs underway in the U.S. and the other industrialized countries generally do not address the needs of the lesser developed countries. For an international R&D effort to have greater impact, more emphasis would be needed on low cost devices suitable to be used in a predominately agrarian society, e.g., solar cookers, solar powered (non-electric) irrigation pumps, crop drying, etc. In addition, the solar R&D programs should be broadened to seek out applications of solar energy in labor-intensive, low-capital industries such as process heating, production of agricultural materials to be used in the production of industrial chemicals, food supplements, etc.

Question 8. Please comment on S. 3424, the proposed Energy Conservation Act of 1976, which was recently introduced by Senator Kennedy.

Answer. Our comments are included in a letter sent to Senator Kennedy on June 15, 1976.

Question 9a. Unless this country is to become a socialist one, perhaps the most effective way to encourage increased energy production is to create conditions which attract investment capital into energy. Do you agree with this statement?

Answer. Yes. This must be done if any meaningful progress is to be made either in increasing energy conservation or in increasing domestic energy production. For such conditions to be productive, other existing restrictions must be removed, such as the moratorium on leasing federal coal resources, the delay in oil and gas exploration in the Atlantic and Pacific OCS areas, and inordinate environmental concern and delays in relation to coal mining and use, synthetic fuels projects, and nuclear plants.

Question 9b. Does this describe present U.S. energy policy?

Answer. No. Much recent legislation and regulation has restricted the availability of funds, has generated widespread uncertainty about the climate in which the energy industry will operate and even about the structure of the industry itself, and has established unnecessarily complex procedural and legal requirements. As a result, some energy companies have found it necessary to diversify into non-energy activities, to obtain a degree of financial stability. What is needed is a sound and predictable investment climate, so that companies can plan long range energy projects with confidence and can undertake the financial programs required to generate the capital for such projects. It is important to realize that in building, for example, a $1 billion 100,000 barrels per day synthetic fuels plant, the capital funds are used by the owning company to pay hundreds of large and small U.S. companies for equipment, supplies, services, and for the labor needed to build the facility. Such expenditures do much more to strengthen our national economy than paying for an equivalent amount of imported oil.

Question 10a. Why are we more dependent upon imported oil now than we were at the time of the Arab boycott?

Answer. At the time of the Arab oil embargo in October 1973, our domestic petroleum deficit was in the order of 25 percent. At the present time this deficit is in the order of 40 percent. Our increased dependence on foreign sources for our energy needs is due to the decline in domestic oil and gas production. As domestic

energy demand is expected to grow at 3 percent per year, the lack of a sound domestic energy policy hinders the development of new and alternative sources of energy and increases dependence on OPEC oil.

Question 10b. What U.S. Government policies could help reverse this trend?

Answer. Enactment of legislation that would provide the framework and environment for a national energy policy. This framework should include:

Deregulation of crude oil and natural gas prices, the concurrent deregulation of product prices, and termination of allocation programs.

Return to a competitive marketplace.

Continuation of federal offshore lease sales under existing OCS laws.

Resumption of coal leasing on Federal lands.

Enactment of clean air standards that bring about a balance between environmental restrictions and production opportunities.

Rejection of divestiture legislation, which is counter to the interests of our country and the free world.

Establish effective energy conservation programs (see answer to question 8).

Continue programs for switching consumers from oil and gas use to coal use where feasible.

Question 10c. Do you agree with Sarah Jackson's article in the Columbia Journal of World Business (fall, 1974) that in order to attain energy independence "the United States should remove all stimuli to development of foreign oil sources that might compete with its domestic priorities?"

Answer. We disagree. By the end of the century, our sources for large incremental amounts of oil and gas will be predominantly from areas outside the United States. By increasing the discovery and production of foreign oil, additional energy supplies, critically needed by European, Asian and developing countries, will be made available. This increased competitive source of oil could help to moderate OPEC price increases. This will directly benefit the United States, since we will be dependent on imported OPEC oil for years to come.

In addition, the balance of payments problems of importing countries could be ameliorated by the discovery of oil and gas within their borders.

Question 11. What percent of your crude oil supply is from foreign sources?

Answer. At present approximately 20 percent of Gulf's crude supply for the United States comes from foreign sources.

Question 12. Has your company been buying more oil than you desire in order to maintain good relations with producing countries for long-term oil supply?

Answer. No. We have diversified our foreign crude oil supply sources from our historically limited sources. This sources diversity gives us the bargaining flexibility to request more competitive price structures from producing countries. As an example, during the second quarter of 1976, Gulf lifted less than the maximum availability from Iran or Kuwait.

Question 13. Are you encouraged by the action or lack of action taken at the recent OPEC meeting at Bali?

Answer. We are encourage by the restraint shown by the OPEC countries in not increasing the price of crude oil at this time. However, should the consuming countries increase their demand for energy significantly, we are not confident that such moderation will be shown at future OPEC meetings. With the exception of Saudi Arabia, we should not consider that this restraint on prices would be continued in future OPEC meetings.

Question 14a. In several places in your testimony you mentioned that your crude oil purchase contracts contain clauses which enable you to phase down your purchase obligations quickly whenever the asking price is not competitive How often have you taken advantage of such an option in recent years?

Answer. Contracts incorporating the phase down options are of most recent vintage and since, generally speaking, prices have been competitive to date, we have not yet had to exercise these phase down options. However, we do have quarterly lifting tolerances which would be the first action to take should a given crude oil be too highly priced in a sensitive market. In some cases, we have lifted our minimum tolerance levels and believe this has had the effect of maintaining competitive pricing.

Question 14b. Do you have concrete evidence to show that such clauses actually result in competitive pricing?

Answer. Yes. Upon presentations by our company to governments arguing that their crude prices were not competitive, we were able on two separate occasions

to receive price reductions during this year. Our arguments were strengthened by our ability to so reduce crude oil purchases.

Question 15. You mentioned in your testimony the increase in jobs resulting from the effort to develop additional U.S. energy supplies. Can you elaborate on this?

Answer. There are three studies which estimate the number of permanent well-paying jobs which would be created in the U.S. as a result of a major national program to increase domestic energy production. These include:

(1) An estimate by the National Academy of Engineering that during the next decade the nation will need about 500,000 additional technically competent people to engineer, build and operate the facilities to supply the direct needs of the energy industry. (U.S. Energy Prospects, An Engineering Viewpoint, National Academy of Engineering, Washington, D.C. 1974).

(2) An estimate of 746,000 jobs involved in the design and construction of energy facilities over the next 10 years, plus an additional 200,000 to 300,000 jobs involved in operating and administering these facilities. (This estimate was included in a study entitled, "The Energy Supply Planning Model", prepared by the Bechtel Corporation for the National Science Foundation, Office of Energy Research and Development Policy, and completed in 1975.)

(3) An estimate that throughout the national economy, three-fourth of a million or more new jobs would be created, given appropriate government energy policies. (These results are included in a study recently completed by Professors Cogan, Johnson and Ward of the Economics Department at U.C.L.A. and titled, *Energy and Jobs: A Long Run Analysis.* This study is available in draft form. It will be published shortly.)

While these jobs would not completely solve our unemployment problem, they certainly would make a major contribution to its solution. Not only that, but since we already use this energy and must pay for it in the form of imported oil, the creation of these jobs to produce domestic energy resources should represent no economic drain on our economy, but rather would make an economic contribution. To us one of the great mysteries of our present national energy situation is the failure to appreciate this direct relationship between increased job formation and increased domestic energy production. In our judgment, the Joint Economic Committee of the Congress should put this matter high on its agenda, for it must certainly be one of the major opportunities facing our nation's economy today.

Question 16. You refer to increasing production of oil and gas outside the United States, particularly in non-OPEC countries. What do you think the U.S. Government policies should be to encourage that effort?

Answer. Increased production from such countries increases both the supply and sources of crude oil, thereby applying presure on OPEC to maintain competitive prices. The extent of such competitive pressure will, of course, be dependent on the volume of crude oil generated from such non-OPEC countries, and to this extent, U.S. Government policies should support the effort on the part of companies operating in these countries to develop new sources of crude oil. In addition, development of oil in those OPEC countries requiring maximum production to meet revenue requirements, also applies competitive pressure on OPEC pricing.

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RESPONSE OF JOHN G. BUCKLEY TO ADDITIONAL WRITTEN QUESTIONS POSED BY CHAIRMAN KENNEDY

Question 1. How do you think the U.S. Government should pursue its program for acquiring its strategic petroleum reserves? Should it buy directly from OPEC nations, rely on the major companies, or just buy from the lowest bidder?

Answer. It would be wise to consider a combination of all three of the options listed above and possibly a fourth. This fourth option would involve the exchange of government-owned crude, such as the oil in Elk Hills, for foreign crude.

In terms of the bidding system which has been suggested. I believe that it would be a feasible alternative only for certain standard foreign crudes, of which the bulk of the program's stockpile will be comprised. Obviously, we will need to include a variety of crude types in the stockpile so that the requirements

of all domestic refiners can be satisfied. That is, the U.S. must plan to store specialty crudes, like high sulfur Kuwait oil, in addition to the normally demanded sweet Saudi light crudes.

There are at most three or four sources of low sulfur crudes in the world. The procurement of these sweet crude oils can be facilitated by opening up the bidding to all interested parties. The Aramco partners, the Saudis, the Venezuelans should all be permitted to throw in their bids. The U.S. could negotiate individually with each of these entities, whether it be a foreign government or a major oil company. Individual negotiations with the governments concerned and the major oil companies could also be held to obtain the specialty crudes which may be required. The object is to get the best possible deal in the interests of domestic supply security.

Question 2. Are you concerned that the International Energy Agency's emergency oil sharing program will be carried out by the major oil companies in a manner that will cause you difficulty in supplying your refineries?

Answer. No. We are not concerned. We are confident that the major oil companies will give us our pro rata share in the event of an emergency. These companies have demonstrated fairness in allocating supplies before and we have no reason to fear that they would do otherwise given another embargo.

In any case, Mr. Wallace Hopkins, the International Energy Agency's deputy executive director, has refuted claims that the oil companies will administer the agency's emergency oil sharing program. He has asserted that it is the IEA alone which will decide who get how much.

Question 3. Would greater leeway for the major oil companies from anti-trust prosecution designed to give these companies greater negotiation leverage with individual OPEC nations, disadvantage smaller companies such as your own?

Answer. No. Greater leeway for the major oil companies designed to give these companies greater leverage with OPEC would not disadvantage independents.

Collective leverage is always more effective than a single-handed struggle. Once the groundwork has been laid by the majors, we are confident that we can negotiate deals which are competitive with their terms. The oil-producing countries have always been eager to bypass the majors since these have been their traditional business partners, often considered in an adversary role.

Before the producing countries gained ownership of their own oil resources, the major oil companies had a much greater advantage than the independent, both in terms of cents per barrel offtake and percentage of price obtained. Today, however, oil is more costly and the major company advantages are slowly being chipped away. The independent refiner has considerable leverage under these changed conditions.

Question 4a. In your statement you expressed concern about freeing up the inflexible purchase arrangements domestically and particularly ending the Federal Government regulations which restrict supply contracts. Would you favor a similar policy to end long-term supply contracts being entered into by the major oil companies internationally today?

Answer. There is no parallel between the domestic situation in terms of supplier-purchaser relationships and conditions existing in the world marketplace.

What we were concerned about in June 1976 in our testimony before the Joint Economic Committee was the perpetuation domestically of government controls on refined petroleum products. The supplier-purchaser relationships which were fixed by the then existing Federal regulatory scheme were strangling the independent segment of the industry. Price and allocation controls made it more difficult for wholesalers and retailers to function. Locked into their base period suppliers, these small businessmen had no freedom to price shop and could not compete effectively with the major oil companies. The elimination of price and allocation controls on residual fuel oil and middle distillates heralded a victory for the independent marketer and refiner.

But while the ending of fixed supplier-purchaser relationships at home for heavy fuel oils and distillates was in our domestic interest, doing away with long-term supply contracts being arranged by the major oil companies internationally would run contrary to these same interests. The U. S. companies concerned want security of supply, minimum prices and favorable terms. I should think these objectives would also be the primary goals of the U. S. Government.

Moreover, such contracts entered into today call for smaller volumes of oil to be lifted by the major oil companies, making available larger volumes of sale

by the producing countries to independents like ECOL. That is, while the producing countries still feel the need to move a substantial part of their load through existing channels, they are seeking to free up ever-growing volumes of this crude oil for sale to other buyers. Thus, Venezuela and Kuwait are anxious to sell to independents and to offer favorable terms. The producing country governments are trying whenever possible to loosen existing downstream ties, to get out from under the control of the majors and to develop new outlets. They are doing this without any U. S. pressure or interference, even though the majors have long-term supply contracts.

Furthermore, even the long-term contracts negotiated by the majors provide "outs" for both parties. Most contracts have a minimum and maximum lifting range which is quite wide. Thus, if the country prices its crude oil too high, the company buying that crude lifts the minimum level. This is, indeed, happening today in Iran, Kuwait and other areas. If one or two large producing countries were suddenly to price their oil at a much lower level than the existing world market price, there is also flexibility in existing crude contracts to take advantage of that situation.

Finally, virtually every long-term supply contract entered into today has a "quarterly price review clause". Under that clause, either party can reopen and even terminate the contract if it determines that the price for the crude oil it is purchasing is not consistent with trends in the world market.

EOCL signed several long-term contracts for its crude supplies. In terms of financing, banks prefer independents to have long-term contracts. It is a way of doing business today which enables both U.S. and foreign independent and major refiners to take advantage of lower crude oil prices that may develop for large volumes of crude supplies. It is a way of doing business which the U.S. Government should not attempt to negate.

Question 4b. Should the U.S. Government try to use its influence to maintain a freer world oil market? If so, how should it do this?

Answer. The ability of the U.S. Government to force a change in OPEC policy is limited. Any attempt to "free up" OPEC will be seen by that organization as an effort to undermine its operation. The oil producing countries will surely close ranks to prevent such efforts from succeeding.

I tried to outline in my testimony the reasons why the United States should carefully weigh any action designed to confront OPEC and pursue instead policies aimed at cooperation. I tried to look at the positive aspects of the OPEC price explosion of 1973–74 and subsequent developments. There are positive overtones to this whole picture. Throughout the twentieth century, industrial countries have paid lip service to the need to bring the developing countries into the world economic structure. They have done nothing to voluntarily change this order. From this standpoint, the OPEC price increases may prove to be the single most important economic action undertaken by a group of developing countries in the 20th century. OPEC has attacked the problems plaguing the Third World head-on. We are now witnessing the beginning of the end of the long-established vicious cycle which has seen industrialized countries grow wealthier and developing countries become even poorer

Question 5a. In expressing your reservations about the Government purchasing authority; you fear that such a company would tie purchases to our foreign policy objectives and that such action would result in higher cost oil imports as it did for countries like France. Do you think American oil companies today can operate independently of U.S. foreign policy?

Answer. Hardly! American oil companies cannot operate independently of U.S. foreign policy, but neither can they be considered an arm of U.S. foreign policy objectives. A Government Purchasing Authority would be very much an arm of foreign policy objectives.

When discussing the creation of a Government Purchasing Authority, I feel there should be a recognition by the U.S. Government of the important role of multinational corporations in the world oil market. These corporations act as a buffer between producing and consuming countries. As such, they prevent confrontations and are demonstrably useful to the national governments involved. The U.S., acting as it own agent, could not buy huge quantities of oil without politicizing what should be commercial trade.

Besides its political undesirability, a Government Purchasing Authority would be an administrative nightmare, introducing severe competitive distortions. Every day there are some twenty large tankers loaded with refined products coming into the United States. A cold winter could see 35 to 40 shiploads a day. Literally hundreds of companies and supply departments are buying refined products.

These departments are staffed with experienced supply people and knowledgeable tanker people who are able to adjust quickly to weather and other circumstances. For the U.S. Government to suddenly step in and try to coordinate purchase and delivery of the many different types and grades of crude required by some 240 refiners in this country would not only prove disastrous but administratively impossible. In the seven-state New England-New York area alone, there are such differences in permitted sulfur levels for the burning of a single product, residual fuel oil, that you could not possibly imagine the U.S. Government successfully coordinating that region's requirements, let alone the needs of an entire nation.

Quite apart from the administrative drawbacks of a centralized buying agency, such government interference would severely limit the independent's ability to compete. One of ECOL's strengths has been its power to make purchases in the marketplace quickly. We can act fast, without long committee meetings, to take advantage of what we see to be weaknesses in the marketplace for both crude and products. We thereby gain a competitive edge over our major company competitors who usually deliberate longer before taking action. That competitive edge would be lost should a Government Purchasing Authority be established. We would have to buy at the same price and terms as everybody else.

Question 5b. Do the Aramco parent companies have leverage over Saudi Arabian price and supply outside of U.S. foreign policy context?

Answer. An outsider can't really comment on this question. The Aramco relationship is in transition with the Saudi Government close to complete takeover of oil operations. One thing we do know is that the Aramco partners have been a moderating influence on Saudi Arabian supply and pricing. This is clearly consistent with U.S. foreign policy objectives.

Question 5c. Did the U.S. Government's use of major oil companies as instruments of American foreign policy during the 1950's, 1960's and early 1970's limit the ability of these companies to produce oil at the cheapest possible price?

Answer. The national security rationale which was invoked to place quotas on oil imports into the U.S. between 1959 and 1973 did, in fact, bring the government into the business of regulating domestic oil prices and limited the flow of low cost foreign oil supplies, the United States was able to keep domestic prices up. The quota system, however, did not so much reflect the U.S. Government's desire to use major oil companies to achieve foreign policy objectives as it did industry fears that the flow of cheap foreign oil would undercut the higher prices being charged domestically.

The imposition of mandatory import controls in 1959 signalled the closing of an era of cheap oil. The major oil companies were prevented, on the one hand, from procuring supplies at the lowest possible prices; on the other hand, they were permitted and given full Federal approval to obtain higher prices at home, thereby bolstering their profits.

Foreign policy objectives, advanced as a national security rationale, only served to mask the more subtle reason for import controls. Their justification lay in a protectionist policy pursued by the Government, in order to protect and stimulate the domestic oil industry throughout the 1950's and 1960's. That policy has only recently been changed with the rise of OPEC as a force in determining energy policy.

Question 6. Is there any way the U.S. Government should begin to think of policies to support its companies so that they would be better able to compete in the future with OPEC national oil companies like the NIOC, Petromin, Kuwait National Oil Company?

Answer. The role of the U.S. Government in the international oil picture should be limited to taking measures that keep U.S. companies competitive with private foreign companies operating abroad and not with the governments of sovereign entities. No company, whether it be foreign or American, that buys in the OPEC countries can be expected to compete with the producing country governments. The main thing to avoid domestically is punitive legislation or regulation, like taxes or excessive controls which might disadvantage U.S. companies vis-a-vis their foreign counterparts also doing business with NIOC, Petromin or KNPC.

Response of John G. Buckley to Additional Written Questions Posed by Senator Percy

Question 1. Last week the Organization for Economic Cooperation and Development (OECD) unveiled a code of conduct for multinational corporations and a

code of Government responsibilities to firms. I am particularly interested in having your comments on these two codes. Specifically, I am interested in: (*a*) Whether the disclosure requirements are adequate; (*b*) whether there is adequate guarantee of confidentiality for the information collected; and (*c*) whether the codes will accomplish their stated purpose.

Answer. The codes put forward by the OECD and specifically those on the disclosure requirements for multinational corporations seem adequate. I should think there would be no problem since the OECD requirements comport with the disclosure rules of the Securities and Exchange Commission of the United States. American companies already make this information public and should have no difficulty in complying.

Question 2. Assuming that one solution to the globar energy shortage should be to encourage new energy production in the oil-importing countries, what steps do you believe the U.S. could or should be taking to ensure that its technical expertise is used to best advantage for solving this global problem?

Answer. When the Arab Embargo hit the industrialized countries of the world, most were totally unprepared to deal with the economic shocks it created, nor could they immediately comprehend the shift that had occurred in the world order. Despite its vast capital resources and unique technological capability, the United States found itself disabled in the face of the boycott and the subsequent price increases. If we stop to consider the effects of these higher oil prices on importing and developing areas, we will realize that the economic consequences have been disastrous. Thus, while the OAPEC actions of 1973–74 served, on the one hand, to awaken the industrialized world to the urgency of narrowing the gap between rich and poor, they also had the countervailing effect of making some of the poor countries even poorer.

The problem, then becomes one of global inefficiency. This is demonstrated in the faltering and inconclusive nature of U.S. energy policy. The Ford Administration began by propagating the slogan of "Project Independence," then quickly retracted its enthusiastic support when the proposals put forward were deemed impractical and unachievable. Energy independence is now regarded as a needless and costly goal.

Nevertheless, some of the embargo-induced fears as to the dangers of import dependency still linger. Vestiges of the independence proposition remain even today. OPEC continues to uphold its inflated price structure as a symbol to the world of a new economic order but instead of responding to the oil producers' beckoning call for a fundamental international restructuring, the industrialized countries have become increasingly preoccupied with their own economies and primarily concerned with shaping domestic energy policies.

Much of what has transpired thus far on the international energy scene has been conceptual in its thrust with little progress toward substantive proposals acceptable to both consumers and producers. The United States did take a positive step toward alleviating the global energy shortage when it advanced a plan for the creation of an International Energy Institute (IEI) to aid the developing countries in energy matters. The proposal was raised initially at the Seventh Special Session of the United Nations in September 1975 and revived one year later at the CIEC conference.

If this organization is allowed to get off the ground, it can help to promote new energy production in developing areas by identifying energy technologies most relevant to their special needs and then arranging for the transfer of these technologies to wherever they are needed. The Institute would be staffed by experts drawn from government, industry and academic circles, recruited primarily from industrialized nations, but also including representatives from the developing nations.

Such a plan appears to be a significant effort toward the advancement of global cooperation in energy and the advantageous use of American technical expertise. It is still, however, only a plan conceived in rhetoric.

The transfer of technology is a subject which has received considerable attention and to which voluminous quantities of literature have been devoted. The industrialized countries obviously understand what must be done. It is simply a matter now of getting the requisite government backing to take some concrete steps. The IEI must not get bogged down in rhetoric.

In order to ensure that its technical expertise is used to the best advantage for solving the global energy shortage, the U.S. must promote policies that coordinate efforts in the public and private sector. One possible way to do this is to

allow for a tax write-off on donations of technology by private companies to Third World countries.

There are, moreover, a variety of arrangements which could be devised to carry out new energy production in the oil-importing countries. Joint ventures could be entered into between local governments and foreign companies. No great advantage exists today to continuing the external developer concept. The emphasis must be on cooperative ventures. France for instance, has signed a joint solar energy research agreement with Iran. Saudi Arabia and the United Arab Emirates have shown an interest in forming similar arrangements. These, of course, are three of the world's wealthiest oil suppliers. It is conceivable, however, that such deals could in some way or form encompass the poorer countries as well and include the United States in a functional constructive role.

***Question 3.* Along the same lines, what steps should we be taking to ensure a better cooperative international approach on energy research and development?**

Answer. The need for a better cooperative international approach on energy research and development is great indeed. With 18 percent of the world's population consuming some 60 percent of its energy and essentially possessing all of the research and development information on new energy technologies, we cannot help but note the obvious inequities. The other end of the spectrum consists of the **oil-importing developing countries with nearly 50% of the world's population consuming a mere 10–15 percent of its energy. Relying even today on such traditional energy sources as wood and dung, the poorest of the poor LDC's have no use for the sophisticated technologies being currently promoted by the industrialized countries. For most, nuclear power is a highly unrealistic proposition.**

Individual countries within the OECD have mapped out their respective energy demand and supply scenarios under varying conditions of wealth and poverty. The Energy Research and Development Administration is responsible for conducting research on U.S. energy options and making projections on reasonable alternatives. Within the OECD itself, there is a large measure of coordination and cooperation. Yet, this cooperation among a small fraction of the world's population and, I might add, also the richest fraction, does very little to ensure progress globally.

We must take the research and development efforts which have been concentrated in the industrialized West and find ways to apply the knowledge which has been gained to the areas most in need of it. This knowledge must be reshaped in a manner whereby it will have impact on the rudimentary economies of the developing countries. The industrialized countries have the brain power to devise new approaches to the energy problems of the LDC's and in the process of structuring these approaches, they will most certainly be able to harness the research potential which has been unnecessarily neglected in these LDC's. The point is that the developing countries cannot proceed without our assistance. We have the experience and the knowledge and we must share it.

Just as ERDA feeds the U.S. Government information on opportunities in the energy field, such agencies should be set up in each and every developing country to keep the governments concerned abreast of issues related to energy. These agencies could aid in forecasting options for their respective countries and in conjunction with certain industrial countries could work to advance their own technologies. Energy sources like the wind, sun and coal should be looked at closely and feasibility studies conducted. Joint venture arrangements with technologically advanced countries ought to be explored. The money, of course, will have to come from the developed world and the financial investments would be considerable. The rewards are difficult to measure financially because the return may not always be monetary. Repayment would be in terms of promoting global development. Thus, incentives will have to be created by the governments of the industrialized countries to secure the large capital outlays. Perhaps a minor first step would be to apportion a relatively small fraction of the OECD budget to such international R&D efforts. The opportunity for action is there. We just have to take it.

Question 4: The Overseas Development Council, and more recently Presidential candidate Jimmy Carter, have suggested convening a World Energy Conference, modeled after the World Food Conference held in Rome in 1974. Please comment.

Answer. The Overseas Development Council's suggestion for a World Energy Conference seems to be an attractive proposal but there is little guarantee that the successes achieved with food can be repeated when it comes to energy. The Council stipulates that such a meeting should be held within the next few years.

The case of food is noteworthy because it is one crucial area in which the developed and developing countries have pooled their R&D resources. They are conducting joint research projects and exchanging expertise, knowledge and people. A network of cooperative food improvement organizations have sprung up throughout the world.

Judging from the achievements of the World Food Conference, perhaps the same progress can be made in the field of energy. The energy conference would require a number of years of extensive preparatory work by various national and international agencies. Granted, the proposal has much appeal and considerable merit. The meeting might even be convened. I should think, however, that such a forum will not have much chance for success unless extensive groundwork is laid and current efforts at cooperation meet with some success.

Question 5. How important is the cooperation of the socialist countries of the world in tackling the world energy problems, and what can be done to increase their participation in solving the global energy crisis?

Answer. Any consideration of a global approach to solving the world's energy crisis must include the socialist countries. Most of these countries do not belong to the World Bank, the GATT, or the IMF. None belong to the OECD or IEA and none are participating in the Energy Commission of CIEC.

If the emphasis is on an international effort for dealing with the energy problem, it is important to encourage the participation of the socialist countries but we must not let their reluctance to cooperate hinder progress in this field. Thus, while the inclusion of the socialist world in future discussions is important, their lack of involvement in existing organizations must not delay action.

Question 6. How effective are the present international agencies for dealing with the energy crisis (e.g., the IEA and the Energy Commission of the CIEC)? Should the United States be taking steps to make these organizations more effective?

Answer. The present international agencies are not very effective. Organizations like the IEA and the CIEC are only buying time in much the same way as organizations which preceded them "bought time."

We can trace the many efforts to develop global cooperation from the ILO and the League of Nations to the formation of the UN, the World Bank, the IMF and the GATT. None of these organizations have succeeded in narrowing the rich-poor gap. The IEA and the Energy Commission, of course, are still relative newcomers, but there is little reason to expect that they will be more successful unless the indutrialized countries are willing to take drastic steps to implement proposals for global reform. The rhetoric has become redundant.

The Energy Commission is the sole branch of CIEC which has acquired some momentum because providing sufficient energy to fuel our economies is the primary concern of industrialized countries. The Third World is calling for the linkage by price indexation of energy with other raw material commodities but little progress has been achieved in this area. Until such time as progress is made, it would seem that an impasse will be reached in all dialogues focusing on energy.

We can no longer pay lip service to the need for bridging the gap between the haves and the have-nots. Development is a zero sum game. If we gain, we have to give up something. It is time to decide that there should be a more equitable distribution of wealth and then take measures to do something about it.

Question 7. Are we doing enough to help lesser developed countries exploit the solar energy which is clearly abundant in those areas?

Answer. No. Clearly, we have done little in this area domestically. It would be difficult to conceive of helping the LDC's when our own efforts suffer from neglect.

Question 8. Please comment on S. 3424, the proposed Energy Conservation Act of 1976, which was recently introduced by Senator Kennedy.

Answer. We were very much in favor of the Energy Conservation Act of 1976 which was introduced by Senator Kennedy back in May and which has since become law. With only 6 percent of the world's population, the United States consumes nearly 30 percent of its energy. Much of this energy use is wasteful and can indeed be trimmed by the enforcement of positive measures to promote conservation. We applaud the Senator's efforts in this crucial area and realize the important role conservation must play in any comprehensive domestic energy program.

Question 9. Unless this country is to become a socialist one, perhaps the most effective way to encourage increased energy production is to create conditions

which attract investment capital into energy. Do you agree with this statement? Does it describe present U.S. energy policy?

Answer. I agree to the extent that it is necessary to encourage increased production but the conditions for such production do not need to be created. They are already there.

The Congress has embarked on a moderate energy cost program in the U.S. It allows the average price of oil produced in this country to rise modestly month by month, yet keeps the weighted average cost far below the politically established OPEC prices. This approach allows newly discovered U.S. crude oil to be priced at a much higher level than old established production and thereby creates sufficient incentive for exploration and development of all but the most marginal geological structures that promise to yield oil reserves.

Question 10. Why are we more dependent upon imported oil now than we were at the time of the Arab boycott? What U.S. Government policies could help reverse this trend? Do you agree with Sarah Jackson's article in the Columbia Journal of World Business (fall, 1974) that in order to attain energy independence, "the United States should remove all stimuli to the development of foreign oil sources that might compete with its domestic priorities?"

Answer. Nearly three years have passed since the Arab Embargo changed the course of international economic and political relations. The upheaval caused by the events in 1973–74 brought immediate fears of oil shortages, of impending and irreparable damage to the international financial community and of harmful foreign policy repercussions.

The fears that oil shortages would persist and that the recessionary effects of the dramatic price rise would plunge this country into a depression have disappeared. The fear that petrodollars would flood world money markets and unduly disrupt the system has been dispelled by experience. The OPEC nations are buying and investing with such fervency that some are even suffering payments difficulties. In the meantime, the United States keeps registering payments surpluses. The overall trade surplus in 1975 was the biggest ever recorded, reaching $11 billion.

What has actually happened is that the transfer of large new financial resources from the industrialized countries to OPEC has created a growing opportunity for industrial countries to export goods and services to OPEC. Companies here in the U.S. have certainly benefitted from OPEC's new wealth. Our own U.S. exports to OPEC have doubled between 1974 and 1975 and now stand at something close to $13 billion annually.

Today, the embargo-induced panic has almost totally subsided. After a brief interlude precipitated by the sudden surge in oil prices and the recession, U.S. energy consumption is growing again and so is our dependence on imported oil.

As I pointed out in my testimony, our energy planning is plagued by the myth that somehow or other our national security, our very survival as a modern nation, requires us to be less dependent on imported oil. The thought that our national security is directly linked to the number of barrels of oil we import a day is to me such a narrow view as to be almost ridiculous. No matter what we do, Europe and Japan cannot escape overwhelming dependence on OPEC oil to fuel their economies. Their vulnerability is our vulnerability. We do not really have the unilateral options we used to have in the energy arena.

If we are to become more and more dependent on oil imports—and, indeed, there seems to be no alternative if we wish to have a prosperous economy for the next several years—then the strategic storage program, which Congress has already provided for, can be seen for what it is: an indispensable prerequisite to maintain our foreign policy options and protect our national security against temporary disruptions of oil supplies at a relatively modest cost.

The point is that Congress and the Administration are moving forward on a storage program that will protect our national security and give us time to unsnarl any supply disruptions that may occur without exposing our economy to massive damage. Yet, the rhetoric from the Federal Energy Administration continues to stress declining dependence on imports over the next several years. That is a myth. It is not going to happen. We are far more dependent on imported oil now than we were prior to the embargo and we will be even more dependent in 1980 than we are today, despite the arrival of North Slope-Alaskan oil sometime next year or, depending on the delays that might occur in the pipeline construction, early in 1978. That is a fact of life and we ought to face it squarely.

Question 11. What percent of our crude oil supply is from foreign sources?

Answer. One hundred percent of ECOL's crude oil supply is from foreign sources. But I might point out that at the time ECOL's testimony was presented to the Joint Economic Committee in June 1976, the ECOL refinery was jointly owned by Northeast Petroleum Industries, Inc. of Boston, Massachusetts and the Ingram Corporation of New Orleans, Louisiana. It has since been purchased by the Marathon Oil Company of Findlay, Ohio.

Question 12. Has your company been buying more oil than you desire in order to maintain good relations with producing countries for long-term oil supply?

Answer. No.

Question 13. Are you encouraged by the action or lack of action taken at the recent OPEC meeting at Bali?

Answer. Yes, I was encouraged by the outcome of the OPEC meeting at Bali in May 1976. Chances are, however, that another oil price increase will be forthcoming in January 1977.

The oil exporting countries sought to exercise oil pricing moderation at Bali. They were willing to resort to negotiation as opposed to confrontation. Their action or lack of action demonstrates a desire to cooperate with the industrialized nations in somehow bridging the economic gap which repeatedly frustrates developing country efforts to achieve a more equitable distribution of global wealth. But, with the less than reassuring outcome this year of CIEC's North-South Dialogue—no substantive solutions have emerged—some increase in oil prices may be decided upon by the OPEC Ministers at their conference in Qatar on December 15, 1976.

Chairman KENNEDY. The subcommittee stands in recess.

[Whereupon, at 1:25 p.m., the subcommittee recessed, to reconvene at 10 a.m., Thursday, June 3, 1976.]

MULTINATIONAL OIL COMPANIES AND OPEC: IMPLICATIONS FOR U.S. POLICY

THURSDAY, JUNE 3, 1976

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ENERGY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:10 a.m., in room 1114, Dirksen Senate Office Building, Hon. Edward M. Kennedy (chairman of the subcommittee) presiding.

Present: Senators Kennedy, Proxmire, Javits, and Taft.

Also present: John G. Stewart, subcommittee professional staff member; William A. Cox and Sarah Jackson, professional staff members; Michael J. Runde, administrative assistant; Charles H. Bradford, senior minority economist; George D. Krumbhaar, Jr., minority counsel; and M. Catherine Miller, minority economist.

OPENING STATEMENT OF CHAIRMAN KENNEDY

Chairman KENNEDY. The subcommittee will come to order.

This is the second of 3 days of hearings before the Subcommittee on Energy of the Joint Economic Committee to examine the implications for U.S. energy policy of the evolving relationships between multinational oil companies and OPEC.

Yesterday we heard testimony of representatives of Mobil Oil Corp., Gulf Oil Corp., and Northeast Petroleum Industries. The subcommittee gained some important insights into the dramatic changes that have taken place in the international energy market, and how the U.S. oil companies responded to the changes. We also heard their reaction to a variety of U.S. Government initiatives that have been proposed to protect our country's interests more effectively.

Today we will hear from four experts who will discuss these same problems and, hopefully, will shed additional light on P.S. policies that should be pursued.

Paul Frankel, who is chairman of Petroleum Economics, Ltd., London, is one of the world's recognized experts in the economics of international oil and he traveled from London to participate in these hearings.

Robert Krueger, an attorney from Los Angeles, served as project director of the FEA-sponsored study, "An Evaluation of the Options of the United States in International Petroleum Affairs," and he is very well informed about this complex subject.

James Akins, now a consultant in Washington, is the former U.S. Ambassador to Saudi Arabia and former head of the Office of Fuels and Energy, U.S. Department of State.

William Lamont, an attorney from Washington, served three decades in the Antitrust Division, Department of Justice, and he is a recognized expert in competition—or lack thereof—in the oil industry.

I would like to have each of you make opening comments of about 15 minutes, and then go to the questions of the subcommittee, so that we will have an opportunity for each to comment on the others' statements. From the point of view of the record we have to develop the issues before us fully and in depth.

So, we will start off with Mr. Frankel, please.

STATEMENT OF PAUL H. FRANKEL, CHAIRMAN OF THE BOARD, PETROLEUM ECONOMICS, LTD., LONDON, ENGLAND

Mr. Frankel. Mr. Chairman, my name is Paul Frankel and I am a British subject, an economist by profession, specializing in oil and energy affairs.

I have written several books and a great number of papers on related subjects. I have also taught oil economics in America and abroad.

More than 20 years ago I founded in London, a consulting firm, Petroleum Economics, Ltd., of which I am now the chairman of the board; it caters principally for medium-sized energy companies, governments, and international agencies.

The future role of American oil companies worldwide and in relation to oil imports of the United States can best be understood by an analysis of the historical and economic elements which have gone into the existing setup.

American oil companies entered foreign countries as suppliers of oil produced in the United States, which until the period of World War II was a net oil exporter. The United States supplied, as one used to say, "Oil for the Lamps of China." In the process of consolidation their sales agencies were eventually transformed into affiliate companies, mostly wholly owned by the U.S. parent and selling products to the end user.

Only when the United States' productive potential ceased to be a global relevance and when foreign sources—Venezuela, Middle East, and Africa—became oil fountainheads, did American oil companies shift some of their "upstream" activities massively to these areas, out of which the actual requirements of their foreign markets and part of their U.S. requirements were met.

There were two reasons why—apart from the government-motivated position-taking by the French—only a small number of American and British companies came to blanket virtually the concessions in the "new" oil areas of the world: (1) The politico-economic predominance of the United States and Britain at the time, and (2) the fact that only large and consolidated enterprises with a considerable cash flow and—significantly—with large and geographically diversified positions in transportation, refining, and marketing, could envisage taking on the outsize financial, industrial, and managerial commitments involved.

Out of all this developed over the decades a system in which investment decisions in foreign "upstream" were determined—and were justified—by the respective positions held semiglobally in the subsequent phases of the industry, right down to the sale to the consumer.

Concurrently, the unit of operation in the oil industry as a whole was of a very high order because only a certain level of industrial concentration made possible a degree of geographical diversification which rendered a heavily investment-laden enterprise reasonably shockproof, due to its ability to average out a large number of individual profit and loss items, the facility to do so provided an "insurance element" which improved the chances of survival of the enterprise as compared with their smaller and more narrow-gaged competitors which inevitably were somewhat accident prone.

Thus, the changes since the early 1970's in the oil setup, for all their far-reaching nature, have left certain structures in place which unavoidably carry some considerable weight. In this respect the state of affairs in the rest of the world outside of the Communist bloc has to be taken into account when one endeavors to outline the opportunities and the limitations of U.S. policies in respect of the style and mode of its oil imports.

Perhaps I could add here, remembering the famous words of Lenin, that what matters in politics and industry was really the control of the commanding heights, and if you control the commanding heights you need not bother about the rest. In our case this has probably been somewhat modified because although the oil companies have lost the control of the commanding heights, they still control the traffic in the plain.

In virtually all OECD countries the main internationally operating oil companies—the majority of which are American owned—cover between 50 percent and about 80 percent of the "downstream" oil activities and it is obvious that their methods of oil procurement are highly relevant for the way the flow of oil from OPEC countries is being organized.

The fact is that in none of the OECD countries—most of them more or less dependent on oil imports from OPEC countries—has there so far been a significant move toward regulations designed to determine by governmental ordinance the methods applied by the "downstream" operators in respect of their supply arrangements for OPEC-country oil—the emergency sharing provisions under IEA, as far as they would involve governmental action, excepted.

Yet, since the previous state of affairs, in which the concession holding companies did determine—within a fairly wide range of alternatives—the volume of oil supplies from each of the oil exporting countries and the amount of investment in most of them, has ceased to obtain, one is perfectly justified in asking oneself whether and to what extent there is a need for a rethinking of the way in which oil, now owned by governmental agencies of OPEC countries, is being acquired and is being brought to the importing country.

Since most of the OPEC countries have rather large quantities of oil to dispose of consistently, it is obvious that they would look to offtakers who can be expected to take these large quantities regularly and pay from them promptly—small wonder that they tend to turn to the

enterprises which are geared to this exercise, if only because they used to take this oil when they happened to "own" it. This is the more likely since all the "free world" over refineries are held by the selfsame companies.

It is tempting to speculate to what extent the OPEC cartel and the large oil companies are complementary and whether they in fact have parallel or even identical interests.

A few almost self-evident features of their new relationship can be established.

First: The companies as buyers of oil are in the short run not directly interested in the absolute level of prices but mainly in their terms of acquisition being no worse than those of other companies of equal stature and somewhat better than that applying to lesser operators. It is even likely that they would not favor any sharp and general reduction of crude oil prices, since it would leave them high and dry with costly inventories—the term "windfall losses" does not even exist.

I must add, we heard yesterday from Mr. Tavoulareas that he does not share this point of view at all. If I understood him rightly, he said that in the long run lower prices would mean demand for lower working capital, and therefore it would be beneficial to the oil companies involved. This may well be in the very long run, but I wonder whether, in a world in which the oil companies have to account to the financial community every 3 months, the immediate heavy loss, resulting from inventory depreciation, would be really very desirable for the oil companies.

Chairman KENNEDY. Would you say correspondingly that they would be more interested in the price going up?

Mr. FRANKEL. Not necessarily, Senator, I come to that in a moment, when I outline what I really believe they are interested in.

Second: They are likely to look for reasonable stability—this is really my answer to your query, sir—in respect of the price and supply pattern because erratic or capricious manipulation of either must affect long-term the status of oil in the energy picture in which they are primarily interested. Also they, like all large-scale and capital-intensive enterprises, tend to look for continuity and for security of tenure, and thus do not favor frequent and wide oscillations of terms and prices. Only such continuity can successfully protect previous investment and encourage investment decisions for the future. It is in this respect that there might be some identity of interest of established offtakers with an OPEC cartel if the latter also focuses on long-term aims.

However, the crucial question remains: How far does this parallelity of interest go and how relevant is it?

It has been said, for instance, by Mr. Anthony Sampson earlier this year, that the oil companies "do the rationing for OPEC." This sounds plausible enough, but operationally it is hard to envisage. Obviously all the companies together cannot take more oil than they can sell, but who could? If demand goes down operators reduce their offtake and vice versa when demand goes up. In that sense OPEC countries and oil companies cooperate—what else could they do? But that is not the essential phase. What matters is whether some—or all—OPEC countries want to increase their respective share of the market—or defen-

sively insist on maintaining it in the face of aggressive methods of others—and thus compete with each other. If and when this is the case they will offer attractive prices and terms to the companies which in turn, since they do compete with each other downstream, pass on at least part of their increased margin to their customers. If, however, none or only some OPEC countries are being expansive and if in the latter case one or some were prepared to make room for the others by moving over, supply could be adjusted to demand and in that case the procedure of disposal would be of minor relevance.

Mr. Chairman, I sat in the hearings yesterday, and I did hear both spokesmen of the international companies point out that the only influence they can apply to the pricing system is to shop around to look for the most convenient and economic crude oil they can find on the market. Obviously with very large operations—the flexible, how shall I say—the collapsible extension to the main program can cover only a comparatively small part of the oil OPEC has to dispose of, or the oil which the offtakers have to take.

If I may say, Mr. Chairman, at this stage, all these ideas, including those put forward by the companies and previously by some noted economists, suffer from the fact that the people, especially the economists, mistake the tail for the dog. That is to say, they look in a fascinated way at the movable fringe of the market, the spot sales, if you like, and forget that in an energy industry the overwhelming part of the operations must be planned and operationally executed over a long period, because it cannot be done on an ad hoc basis.

Now, undoubtedly the fringe operations are very important, but they have to be seen in the right context. If I may still stick to my picture, you can imagine a dog without a tail, but it is very difficult to imagine a tail without the dog. [Laughter.]

Going back to what I tried to describe before, that the real decision is being made in respect to the competition of one OPEC country with the other.

The Texas Railroad Commission could proudly state that it had nothing to do with oil trade and the price of oil, simply because it managed to adjust the volume of supply at source by way of market demand proration.

There remains the need to analyze whether alternative methods of procurement would give substantially different and/or more desirable results. Firstly we must bear in mind that such alternative methods would in the circumstances have to be governmentally induced and enforced, simply because there does not now exist a competitive field comprising a multitude of small- or medium-sized refiners and marketers—I am talking about the international scene—to whom the OPEC sales could be directed and for whose custom the OPEC countries would have to strive.

Consequently, only an import system in which governments or goverment agencies would be interposed as import managers could fundamentally alter the operational pattern. A great deal has been said and written about the technicalities of such a kind of import monopoly—auctions, sealed bids and all—but what really matters is in fact that the results of any such system—or of the absence of a system—depend on the prevailing relation of supply and demand and in our case also on the cohesion of OPEC.

Under conditions of actual or contrived supply stringency—short of major curtailments for the handling of which the emergency sharing system of IEA has been designed—centralized buying is not likely. to yield better results because in that case the buyer's position becomes weaker the greater is the volume of his requirements and the heavier is the responsibility of procuring it.

On the other hand, an effective control of individual import decisions would be called for in such a contingency. Had it existed at the end of 1973 the mad rush of some operators, bidding up prices for marginal quantities, thus giving the appearance that oil could be sold at any price, would have been nipped in the bud.

On the other hand, in the case of a state of tangible oversupply, prices tend to soften at the edges and centralized buying is less likely to identify and exploit such opportunities as they arise. If, however, massive and sustained oversupply, arising at several points of supply, or straight political pressures should after all wrench the OPEC cartel apart, then it would not matter too much how the procurement of oil was organized.

Mr. Chairman, I now turn to the subject, the role of national oil companies in consumer countries, and here, as I assume, the reason for my being called to testify today is that I have an overview of non-U.S. situations. I would like to refer very briefly to the experience and motivation in other countries which have—as far as they have—led to the constitution of national oil companies in oil-importing countries.

The question whether there is, in the present circumstances, a call for the formation of a Federal oil company has been raised and reference has been made to the degree to which experience gained in other countries could be a pointer in the right direction.

It is a fact that national, that is to say either State-owned or Government-backed, oil companies operate in a substantial number of countries and their formation did and does to my mind make perfect sense in the context of their respective economic, political, and social circumstances.

Generally speaking, such national oil companies were initiated and sponsored by governments which wanted to remedy the fact that most if not all of the oil business was covered by or on behalf of foreign operators. The latters' paramount position and ample resources inhibited the emergence of competitive private indigenous forces and only another big entity, the national government or its offshoot, could face the foreign corporations on something like an equal footing.

The existence of such national oil company (or companies) provides the respective government with firsthand information on, and genuine insight into the intricacies of the industrial structure and of operational methods which renders manageable the task of monitoring developments effectively—one has talked of Benchmark Enterprises.

It has also been pointed out that these national enterprises are the European equivalent of the regulatory agencies of the United States. It was said that the U.S. legal setup—by way of the Department of Justice and of the courts—provides the instruments for surveillance of and for the promulgation of directives to private enterprise. The constitutional base for such governmental policy formulation and

enforcement lacking elsewhere, the method most likely to be adequate was seen to be and still is direct Government-backed industrial activity.

Reverting to the U.S. scene, it would appear that neither of the motivations which have led elsewhere to the establishment of national oil companies are applicable here. There is no problem of foreign predominance, nor is there a need to use other means to reach targets which are within the province of, inter alia, regulatory agencies.

All this notwithstanding, it is reasonable to assume that in certain circumstances, for instance, noncommercial acquisition of oil for stockpiling purposes, special agencies might be used or created. It is also possible that certain investments abroad, which are in the national interest, but whose politically induced risks inhibit private enterprise going ahead, might have to be organized in one way or the other by governmentally orientated operators. There is, however, hardly a prima facie case for stating that a fully fledged Federal oil company is the only or even the most adequate vehicle to reach these specific targets.

Now, some final thoughts.

One, the worldwide trade in oil being organized as it is, a radically different approach in the United States would by itself hardly dislocate the OPEC cartel. U.S. imports were in 1975 15 percent of the total exports of OPEC countries. If OPEC wanted to challenge a U.S. import system not to its liking, it could boycott it, sustaining in the process less inconvenience than it would inflict on the United States; 63 percent of U.S. oil imports and 23 percent of U.S. oil demand are met by OPEC countries.

The success prospects of a unified system of oil import management of all OECD countries would be somewhat greater, but it is virtually certain that such a system is politically unattainable.

Two, only the internal cohesion or the lack thereof will be the decisive factor for OPEC, and this depends to a much greater extent on intensely political and on fundamental economic problems than on any gimmicks one could think up in the technique of procurement.

Three, finally, surveillance of oil companies in their domestic and international dealings is more necessary than ever. A higher degree of transparency is called for, without necessarily following the example of the child who, bent on finding out how the toy works, dismantles it and in the process wrecks it altogether.

Thank you, Mr. Chairman.

Chairman KENNEDY. Thank you very much, Mr. Frankel.

We want to welcome Senator Taft, an enormously active member of the subcommittee. Senator, we are hearing from each witness, and then we will go on to the questions.

Senator TAFT. Great.

Chairman KENNEDY. Mr. Krueger.

STATEMENT OF ROBERT B. KRUEGER, ATTORNEY, LAW FIRM OF NOSSAMAN, WATERS, KRUEGER, MARSH & RIORDAN, LOS ANGELES, CALIF.

Mr. KRUEGER. Gentlemen, I was the project director for a study that my law firm, Nossaman, Waters, Krueger & Marsh, undertook in 1974

for the Federal Energy Administration on the options of the U.S. Government in its relationship to U.S. firms in international petroleum affairs.

Our report,[1] which was released in February of 1975, indicated that there was a clear-cut need for a greater involvement, a greater presence, by the U.S. Government in the activities of U.S. firms in international petroleum transactions. We found abundant evidence that the major oil firms did not cause or conspire with OPEC or producer countries in bringing about the energy crisis and the resulting higher prices. On the other hand, it was also very clear that the oil companies operating abroad, both the United States and foreign companies, and both the independents and majors, had become virtually hostages of the major producer nations and lacked the will and resources to resist their demands for higher prices and greater "participation." We concluded that "the existing incentives for the companies do not assure that their behavior will be consistent with the national interests of the United States."

We accordingly recommended that the U.S. Government should "have access to relevant information regarding present and future significant international petroleum arrangements."

Chairman KENNEDY. Mr. Frankel, do you agree with that concept?

Mr. FRANKEL. It depends on the context in which it is seen; as such we do.

Chairman KENNEDY. We will come back to that.

Mr. KRUEGER. We proposed that the information be provided to the Federal Government on a confidential basis, but before the fact.

We also predicated this proposal on there being established a sufficiently responsible and a sufficiently independent agency to take necessary action. We recommend that the Federal Government be given "the power to review and approve such transactions where they may affect significant aspects of the national interest."

We understand that our report has been useful to your subcommittee in its work in this area and the related study undertaken by the General Accounting Office at your request. This is rewarding; I hope that your efforts lead to intelligent action by the Federal Government.

At the outset it should be emphasized that the United States and the free world—I would say the world generally—have benefited enormously from the technology, scientific expertise and managerial skills of the U.S. petroleum companies, both the large, international companies and the independents. With relatively little governmental support and at times possibly even a negative governmental presence, they were the leaders in creating the present global supply system, a system which historically has responded very effectively to the demands placed upon it. In the process these companies became and remain an important component of the U.S. presence abroad.

Even today, despite the continued threat of disruption and higher prices, the petroleum industry serves the logistical demands of the modern world well and—it is worth noting—did so during the energy crisis, itself. This does not suggest that the international petroleum industry should not be regulated, but it does indicate that care should

[1] See the summary of the report, p. 116.

be taken that changes introduced into the system do not materially impair its efficiency. It should not be assumed that the firms—foreign and domestic—which would surely desire to displace the U.S. majors in foreign markets would do so on better terms or would serve the United States or world markets as well.

The history of international petroleum demonstrates that a free market has probably never prevailed. On the other hand, regardless of their historic cartels, there has been significant competition among the companies in international markets for at least the last 10 years. For this reason I would not favor a system which disabled a U.S. company in one class from competing against other U.S. companies or foreign companies in international petroleum markets.

Insofar as some of the issues raised by your subcommittee I have these comments.

As indicated earlier, there may be, indeed probably are, divergencies between the interests of the United States and foreign companies in negotiating long-term supply arrangements and those of the U.S. Government. The companies on their parts are interested in preserving or obtaining preferred acces to foreign supply so that they can service United States and foreign markets—serve their system.

To achieve this they are often willing to accept terms which establish precedent in the world market that inevitably leads to higher prices. The arrangements negotiated by Gulf and British Petroleum in Kuwait in 1974 for "buy-back" crude was a good example of this. The arrangements recently negotiated by Aramco—and still being negotiated, I am told, and of course Aramco is Exxon, Mobil, Socal and Texaco—with Saudi Arabia could be a similar example. These examples suggest, indeed, call out for the U.S. Government to at least obtain complete information regarding such transactions before they are concluded, so that a decision can be made whether the U.S. Government should do anything to prevent or alter precedent-setting arrangements. It also indicates the desirability of having a mechanism to review and pass upon these transactions to assure that they are consistent with acknowledged policy objectives. Among those are:

The establishment of an adequate and secure supply of petroleum;

The maintenance of a reasonable and predictable price for our consumers, and I would say the consumers in other countries as well;

The maintenance of national security—and the crisis did show that this is an issue when there is a shortage, such as an embargo.

The maintenance of viable foreign relations;

Efficiency of resource utilization here and abroad; and

The encouragement of a free and effective competition.

The companies I just mentioned are majors, part of the "Seven Sisters." There is, however, no reason to conclude that the majors are a special source of concern in this respect. The independents were the first to "break the line" both in the Middle East and elsewhere and it was essentially their competition which made possible the "leapfrogging" tactics of the Persian Gulf and North African producers in the price negotiations of the early 1970s. They—the independents—often had no other significant sources of foreign supply and were, therefore, less concerned about precedental effects. History strongly

indicates that where there is a real or potential cartel among producers, competition among consumer-nation companies will not result in a more stable supply or lower prices. If anything, the contrary is more likely to be true.

When you are talking about competition and inspiring greater competition in foreign margets, it must be kept in mind that the history of Middle Eastern oil shows that it was competition that inevitably led to OPEC, and that higher competition on price did not bring prices down but forced them up.

It has been suggested that contracts providing producer countries with assured outlets for petroleum minimize the need to compete in price and on the companies' part the desire to develop U.S. energy sources. While this might be the case in a free market, this suggestion lacks validity in today's market which is, of course, not free but a market controlled by a sellers' cartel. In this market, supply is orchestrated so as to maintain price and those who wish to have access to the supply must pay the price.

The companies who historically have had preferred access to international supplies and who have developed the logistical structure to distribute them are very vulnerable to the demands of producer nations. It is for this reason that I believe their international supply arrangements should be regulated. I see no reason to believe, however, that if the U.S. companies—the majors, as has been discussed—were prevented from competing for access in such markets, the producer nations would for that reason begin to compete in price or impose less demanding conditions on the foreign or other domestic firms that would, inevitably, take their place.

In this respect, it should be noted that most of the foreign firms in which consumer nations have an interest—CFP in France, for example, and ENI in Italy, for example—have made deals which are less favorable from the standpoint of price than those of the U.S. firms. This is also true of deals made by consumer governments themselves.

In examining options in this area it is important to look carefully at results which would probably occur. We can do many things to U.S. firms: We can reconfigure them; we can control their prices; we can disable them from effectively competing in international markets, both in classes and activities; we can dismember them. None of these, however, would predictably result in any change in pricing in today's international markets. Those companies which took the place of our companies would inherit their problems and would still need to use their distribution system. We do not have another one.

The ability to compete in international markets may have diverted some firms from developing domestic energy sources. The major economic constraint in this area, however, has been the existence of domestic price controls, particularly with respect to natural gas. Environmental considerations and costs have also been major factors in delaying the development of the Outer Continental Shelf, which appears to be the last area of potentially large primary reserves in most of the United States.

I might note the development of these reserves, such as those in Alaska, as well as the development of the North Sea, will be putting a cost floor under the OPEC prices. We have now progressed to the

point where we are talking about the cost, arriving in California, of the North Slope oil being $7.50 to $10 a barrel. So, if we are going to bring in our own oil at that price, there is very little reason to think we will be able to obtain it elsewhere at less.

Chairman KENNEDY. That is not going to be the situation if they bring the oil in the New England coast, or Massachusetts.

Mr. KRUEGER. Still, Senator, the entry cost in the area of Massachusetts is very high; offshore work is very expensive; those platforms are very expensive; pipelines to bring it in are very expensive. I do not have the figures, but I would be very surprised if you are talking about bringing the oil into Massachusetts at much less cost than $7 a barrel.

If price controls were ameliorated or removed, perhaps with tax "windfall" provisions and assistance to disadvantaged classes of users, there would predictably be much greater development of domestic sources. The higher prices there would also promote more conservation which is being substantially ignored in the United States today. With our greatly increased demand and our steadily decreasing domestic supplies, we are in worse shape than we have ever been in terms of dependency on foreign oil. From approximately 35 percent dependency in 1973 we are edging up toward 50 percent; the latest figures are 42 or 43 percent.

Chairman KENNEDY. You have an extensive statement, Mr. Krueger, and we want to reserve some time toward the end for some interchange; do you think you could summarize it?

Mr. KRUEGER. Yes; I intend to do that, that was only the opening part that I was going to cover extensively.

I would comment briefly on the concept of "downstream" investment in the United States. There have been a number proposed, largely by Iran wanting to take over 50 percent of Shell's marketing operation in the Northeastern United States in consideration for joint venture on refining in Iran. They also had discussions with Ashland. It is very apparent that to give the producing nations downstream points of control, such as marketing, refining, tanking and pipelines, would render us more vulnerable to political pressures, and also interruptions of various kinds.

It is for this reason, as well as strong sentiment by some Americans against almost any form of Arab investment that there has been virtually no major investment by the Middle Eastern countries which has passed without question.

I might say, I quite frankly do not know of one significant downstream petroleum investment that has been consummated yet by one of the Middle Eastern producers.

In comparison, we have permitted British Petroleum to take a very dominant position in both downstream by virtue of their Sohio acquisition, and upstream because of their north slope interests. This has been done without any significant opposition. The Sohio exchange has given BP, which is now 70 percent effectively owned by the British Government, the potential of majority ownership in what will be one of the largest U.S. integrated companies.

I don't think we should resist this type of investment. This country has been developed with foreign capital, and it is a good way to recycle petrodollars. I do believe that major arrangements of this kind,

though, should be subject to disclosure, review and approval of the same type I discussed for foreign supply arrangements.

I generally share Mr. Frankel's views on the OPEC-major oil company relationship insofar as distribution is concerned. The OPEC powers need our companies and the companies need OPEC. But this is not to say that somehow by putting aside the majors you could reduce supply, or reduce price. There is no one to really take their place unless we get into a program of creating a whole new system. They have the global supply and distribution system—we need it.

There is always the question raised of whether we should adopt a policy of encouraging development of supply in non-OPEC countries, so-called "safe countries." Where are those safe countries? There is the United Kingdom, which has talked about conserving its North Sea oil for domestic uses, and it has taken a very strong and very adverse position with respect to United States company involvement by virtue of acquiring participation in the North Sea. We have Norway, which has said it is going to hold back its development to generate only such revenues as it can absorb. Mexico, to the south, is saying that it is going to follow OPEC pricing. Canada, to the north, which has "out-OPECed" OPEC in terms of what they have done to our companies and by way of export controls.

Where is it safe? I can't see where the People's Republic of China and Saudi Arabia are that different. As a matter of fact, the People's Republic of China has higher prices, and as a matter of fact, if we had export capacity, our companies would probably be selling at OPEC price.

In short, insofar as reliability is concerned, I don't see much difference—if any—between OPEC members and other producer countries except possibly with respect to the very important issue of using oil as a weapon in the Israeli-Arab conflict, and—of course—that is very important to this whole issue.

Insofar as a Federal Government petroleum corporation is concerned, I share Mr. Frankel's view that we do not need it in this country. It would be largely an act of redundancy for us to form one because we have access to foreign petroleum information, and we have access to foreign petroleum, if we only regulate the companies so as to require disclosure, and to determine if their international transactions are consistent with national policy objectives.

I would like to comment that I do not feel that a vertical breakup of the major companies, such as that proposed in S. 2387, would have any positive effect on pricing and supply in international markets. Historically, there is no reason to believe that the independents or smaller companies could exert any competitive influence on OPEC would cause prices to back down—the converse would be true.

In terms of the other options which are available, I covered these in my paper. I quite agree with Mr. Frankel that the "gimmicks" of establishing a national system to limit imports of one kind of another are just that and will not work. I think there is a possibility of making progress in terms of bilateral arrangements which assist in the creation of mutual interests between companies, such as those with Saudi Arabia and Iran.

The friendship and good offices between Saudi Arabia and the United States, for example, may have had a very material effect on

the Saudi determination not to permit another price rise in the recent OPEC meeting. The Saudi importance in international oil and OPEC cannot be overestimated. It can literally determine world prices. There is a direct tie from that to the importance of the resolution of the Arab-Israeli conflict to Saudi Arabia and other Middle Eastern producers, which cannot be also overestimated.

The ongoing Conference on International Economic Cooperation is a very useful means for generally and on a very broad base, with a GATT type of format, beginning to solve some of the differences between producer and consumer countries on oil and the interrelationship of oil to goods, services, and other resources.

I come back to a basic thesis: I believe it is essential for this country to have access to information regarding major international petroleum arrangements. I would use a form of regulation; I would also permit U.S. companies to cooperate in foreign markets with appropriate supervision by the United States and appropriate exemptions given from antitrust restraints. I would permit them to cooperate in order to attempt to deal effectively with the cartel.

Again, competition is perhaps a great thing in our domestic scene, but we have never had free competition in international oil, and I believe it is at least a two-edged sword, one side of which is now wounding the consumer.

I conclude by saying that the United States' best interest is not served in trying to break OPEC, nor in seeking complete energy independence, but in stabilizing supplies and prices to reasonable levels for itself and other consumer nations, and in maintaining sufficient international and domestic controls to achieve that end.

Thank you, gentlemen.

Chairman KENNEDY. Thank you very much. Without objection Mr. Krueger's prepared statement and the report referred to will be printed in the hearing record.

[The prepared statement of Mr. Krueger, along with the summary of a report entitled "An Evaluation of the Options of the U.S. Government in Its Relationship to U.S. Firms in International Petroleum Affairs" follow:]

PREPARED STATEMENT OF ROBERT B. KRUEGER

Gentlemen: I was the project director for a study that my law firm, Nossaman, Waters, Krueger & Marsh, undertook in 1974 for the Federal Energy Administration on the options of the U.S. Government in its relationship to U.S. firms in international petroleum affairs. Our report, which was released in February of 1975, indicated that there was a clear-cut need for greater involvement by the United States Government in the activities of U.S. firms in international petroleum transactions. We found abundant evidence that the major oil firms did not cause or conspire with OPEC or producer nations in bringing about the energy crisis and the resulting higher prices. On the other hand, it was also very clear that the oil companies operating abroad, both U.S. and foreign and majors as well as independents, had become virtual hostages of the major producer nations and lacked the will and resources to resist their demands for higher prices and greater "participation". We concluded that "the existing incentives for the companies do not assure that their behavior will be consistent with the national interests of the United Staes." We accordingly recommended that at a minimum the U.S. Government should "have access to relevant information regarding present and future significant international petroleum arrangements" and that it also be given "the power to review and approve such transaction where they may affect significant aspects of the national interest."

We understand that our report has been useful to your subcommittee in its work in this area and the related study undertaken by the General Accounting Office at your request. This is rewarding; I hope that your efforts lead to intelligent action by the Federal Government.

At the outset it should be emphasized that the United States and the free world have benefited enormously from the technology, scientific expertise and managerial skills of the U.S. petroleum companies, both the large, international companies and the independents. With relatively little governmental support and at times possibly even a negative governmental presence, they were the leaders in creating the present global supply system, a system which historically has responded very effectively to the demands placed upon it. In the process these companies became and remain an important component of the U.S. presence abroad. Even today, despite the continued threat of disruption and higher prices, the petroleum industry serves the logistical demands of the modern world well and—it is worth noting—did so during the energy crisis, itself. This does not suggest that the international petroleum industry should not be regulated, but it does indicate that care should be taken that changes introduced into the system do not materially impair its efficiency. It should not be assumed that the firms which would surely desire to displace the U.S. majors in foreign markets would do so on better terms or would serve the U.S. or world markets as well.

The history of international petroleum demonstrates that a free market has probably never prevailed. On the other hand, regardless of their historic cartels, there has been significant competition among the companies in international markets for at least the last ten years. For this reason I would not favor a system which disabled a U.S. company in one class from competing against other U.S. companies or foreign companies in international petroleum markets.

I have some comments regarding some of the issues which your subcommittee has under study.

As indicated earlier, there may, indeed probably are, divergencies between the interests of U.S. and foreign companies in negotiating long-term supply arrangements and those of the U.S. Government. The companies on their parts are interested in preserving or obtaining portions of preferred access to foreign supply so that they can service U.S. and foreign markets. To achieve this they are often willing to accept terms which establish precedent in the world market that inevitably leads to higher prices. The arrangements negotiated by Gulf and British Petroleum in Kuwait in 1974 for "buy-back" crude was a good example of this. The arrangements recently negotiated by Aramco (Exxon, Mobil, Socal and Texaco) with Saudi Arabia, could be a similar example when the terms are disclosed. These examples suggest the need for the U.S. Government to at least obtain complete information regarding such transactions before they are concluded so that a decision can be made whether the U.S. Government should do anything to prevent precedent-setting arrangements. It also indicates the desirability of having a mechanism to review and pass upon these transactions to assure that they are consistent with acknowledged policy objectives, such as:

Establishment of an Adequate and Secure Supply of Petroleum;
Maintenance of a Reasonable and Predictable Price for Petroleum;
Maintenance of National Security;
Maintenance of Viable Foreign Relations;
Efficiency of Resource Utilization;
Protection of Environmental Quality;
Encouragement of Free and Effective Competition;
Encouragement of Private Participation in Resource Development; and
Maximization of Revenue to the Federal Government.

The companies just mentioned are majors, part of the "Seven Sisters". There is, however, no reason to conclude that the majors are a special source of concern in this respect. The independents were the first to "break the line" both in the Middle East and elsewhere and it was essentially their competition which made possible the "leap frogging" tactics of the Persian Gulf and North African producers in the price negotiations of the early 1970's. They often had no other significant sources of foreign supply and were, therefore, less concerned about precedental effects. History strongly indicates that where there is a real or potential cartel among producers competition among consumer-nation companies will not result in a more stable supply or lower prices in international petroleum markets. If anything the contrary is more likely to be true.

It has been suggested that contracts providing producer countries with assured outlets for petroleum minimize the need to compete in price and on the companies' part the desire to develop U.S. energy sources. While this might be the case in a free market, this suggestion lacks validity in today's market which is, of course, not free but a market controlled by a seller's cartel. In this market supply is orchestrated so as to maintain price and those who wish to have access to the supply must pay the price. The companies who historically have had preferred access to international supplies and who have developed the logistical structure to distribute them are very vulnerable to the demands of producer nations. It is for this reason that I believe their international supply arrangements should be regulated. I see no reason to believe, however, that if the U.S. companies were prevented from competing for access in such markets, the producer nations would for that reason begin to compete in price or impose less demanding conditions on the foreign or domestic firms that would take their place. In this respect, it should be noted that most of the foreign firms in which consumer governments have an interest have made deals which are less favorable from the standpoint of price than those of the U.S. firms. This is also true of deals made by consumer governments themselves.

In examining options in this area it is important to look carefully at results which would probably occur. We can do many things to U.S. firms: we can reconfigure them; we can control their prices; we can disable them from effectively competing in international markets, both in classes and activities. None of these, however, would predictably result in any change in pricing in today's international markets. Those companies which took the place of our companies would inherit their problems and would still need to use their distribution system. We do not have another one.

The ability to compete in international markets may have diverted some firms from developing domestic energy sources. The major economic constraint in this area, however, has been the existence of domestic price controls, particularly with respect to natural gas. Environmental considerations and costs have also been major factors in delaying the development of the outer continental shelf which appears to be the last area of potentially large reserves in most of the United States. If price controls were ameliorated or removed, perhaps with tax "windfall" provisions and assistance to disadvantaged classes of users, there would predictably be much greater development of domestic sources. The higher prices there would also promote more conservation which is being substantially ignored in the United States today. With our greatly increased demand and our steadily decreasing domestic supplies, we are in worse shape than we have ever been in terms of dependency on foreign oil. From approximately 35 percent dependency in 1973 we are edging up toward 50 percent.

Turning to the use of the economic power of the producer nations, there have been a number of investments proposed by such nations in the "downstream" operations of U.S. firms. In 1974 Iran and Shell Oil Company (U.S.) announced a proposal in which the National Iranian Oil Company would acquire a 50 percent interest in a large number of Shell's marketing operations in northeastern United States in consideration for a long-term purchase arrangement for petroleum products that would be refined in Iran under a joint venture. About the same time Iran discussed with Ashland a proposal for the sale of a 50 percent interest of Ashland's refining and marketing operation in New York. It is apparent that downstream points of control, such as marketing outlets, refineries, tankers and pipelines, would render consumer countries more vulnerable to interruption and to political pressures than the present system. It is perhaps for this reason as well as the strong sentiment by some Americans against any form of Arab investment here that virtually no major investment in the United States by a Middle Eastern exporting country has passed without question.

In comparison, British Petroleum Company ("BP") which has traditionally been dominated by the British Government (49 percent ownership—71.5 percent since 1975) has been able to establish dominant points of control in both upstream and downstream aspects of U.S. production, notably without criticism or opposition. BP in 1970 in effect relinquished a very substantial number of both upstream and downstream interests in connection with a trade with the Standard Oil Company of Ohio ("Sohio") which gave BP 25 percent of Sohio stock, a major midwestern marketer, with the prospect of 54 percent ownership depending upon the rate of production from Alaskan leases. When the Trans-Alaskan Pipeline comes onstream Sohio will be the owner of approximately the 1.2–1.5 million barrels of oil per day which will be arriving on the West Coast. The transaction,

therefore, has given BP the potential of majority ownership in what will soon be one of the largest U.S. integrated companies.

I do not believe that it is in the U.S. national interest to resist this type of investment. A large part of the development of this country has occurred through the use of foreign capital and certainly investments here are good method of recycling the Middle Eastern "petrodollars." I believe that it is in the national interest, however, for the Federal Government to have the power to review and approve or disapprove transactions of this kind in view of their importance to the United States and other consuming countries.

The question has been raised as to whether it would be difficult for producer countries or for OPEC as a whole to tailor production to market demand if they were not able to rely on the multinational companies with their knowledge and control of global markets. It would be very difficult, perhaps impossible. The producer countries need the companies; the companies need the supplies of the producer countries. This is not to suggest, however, that the consuming nations of the world, which are in the vast majority, could significantly influence supply or price by "putting aside" the majors. There is no one that could adequately take their place, at home or abroad except possibly with massive subsidies.

Question has been raised as to the attitude of producer nations toward the development of alternative or non-OPEC sources of energy. Most of the producer countries, notably Iran and Indonesia which have the greatest short-term reasons in so doing, have actively investigated their own alternate energy sources, such as geothermal, coal and nuclear, with the obvious view of maintaining their maximum export capabilities in petroleum. A number of the consumer-nation companies have participated in these efforts to develop alternative energy sources. I do not know of any threat to any company's right of access because of its interest in developing non-petroleum sources of supply.

The issue is always posed as to whether the United States should adopt a policy of encouraging the development of supply in non-OPEC countries. It is questionable, however, whether there are any fully reliable producer countries. The United Kingdom with which the United States has a mutually acknowledged "special relationship" and whose petroleum company, BP, has very large interests in the Alaskan North Slope and elsewhere in the United States, is actively considering proposals for North Sea participation and severe taxation that would seriously affect U.S. companies. The U.K. is also talking of "conserving" its enormous North Sea reserves by restricting development and has given indications of a possible intention of restricting future production to British markets. Norway has an announced policy of restricting its very large anticipated North Sea production so as to generate only such revenues as its economy will be able to efficiently absorb and is also considering tax raises that would impact upon U.S. companies. Canada, our neighbor and largest trading partner, has stated that it intends to curtail all exports to the United States within the next few years. At the same time, by a combination of federally imposed price controls, severely restrictive federal income tax provisions, and dramatically increased royalty rates by the provincial governments, Canada has abruptly reversed the economic incentives for investment by U.S. companies and has made supply arrangements to the United States more expensive and less secure. Mexico has indicated that when it soon achieves export capacity from its new discoveries it will follow OPEC pricing practices. Whether it is the Peoples Republic of China or the Kingdom of Saudi Arabia, there appears to be a universal intention on the part of exporters to maximize returns. Is there any reason to think that U.S. operators would sell at less than OPEC prices, if we had exporting capacity? Insofar as reliability is concerned there appears to be very little difference between OPEC members and any other exporting countries, except possibly with respect to using oil as a political weapon over Israeli-Arab issues.

Forcing of U.S. companies away from traditional supply sources in the interest of security could simply render them uncompetitive in comparison with foreign companies and could result in petroleum being directed elsewhere. Investments (e.g., European refineries and marketing outlets) have been made by U.S. companies predicated on particular foreign supply sources. To require these companies, many of which serve largely foreign markets in any case, to seek other sources could be very costly to them.

It has been suggested that the Federal Government form a petroleum corporation to engage in exploration, development and purchasing abroad. At the outset it should be noted that if a precept of a Federally owned international oil company is that it is to serve as a "yardstick," it can do so only if it is in all material

respects similar to a private company: if it has no special advantages and no competitve handicaps vis-a-vis privately owned companies. It should also be noted that if the Federally owned corporation is in fact comparable to a private company, it probably would be in no better position to perform the various petroleum industry functions than the private companies are.

The establishment of a Federal oil corporation would be unlikely to have a significant effect on OPEC pricing policies, and runs a substantial risk of provoking further price rises. Creation of a U.S. Government international oil company would inject one more oil company into the business of exploring, developing, and importing oil as well as possible downstream activities. There are approximately one hundred such firms currently operating in the international oil industry. The injection of a public corporation would bring about a price reduction only if oil supply was increased as a result of this act.

If this option would not affect supply or demand and I do not believe that it would, the question is posed as to whether there is reason to believe that oil producing governments would sell to a U.S. corporation at a price lower than that offered by alternative buyers. There is not; to the contrary, producer governments have demonstrated their interest in obtaining the highest price possible for their oil supplies. Government participation in BP, CFP, ENI and others does not, appear to have yielded economic advantages.

There is a possibility that a U.S. Government corporation might increase the supply of oil and thereby lower price if some oil producing countries have a strong preference for government-to-government arrangements. Supply would be increased, however, only if this preference were so strong that in the absence of a U.S. interest, such country would enter into no agreement at all. This condition seems highly unlikely. There are already in existence a number of foreign government corporations that would present acceptable alternatives.

If there were reason to believe that a government corporation could more efficiently search for, develop and import oil to the U.S. market than private companies, there would be savings either to the taxpayer, or to the consumer if such savings were passed on in the form of lower prices. There is, however, no evidence indicating that government corporations are more efficient than private corporations. The record of other U.S. Government enterprises, as well as foreign partially and wholly-owned oil companies, leads to the opposite conclusion.

In order to create a petroleum corporation, whether privately or governmentally owned, it is necessary to assemble from the preexisting industry those with technological and managerial skills sufficient to fulfill the assignment. If this is done adequately, the personnel have simply been acquired from other companies and what has in effect been created is "just another oil company." This is perhaps justified when a consumer nation does not have an industry capable of entry into international supply arrangements, but in the case of the United States, private industry has historically maintained a very broad-based access to foreign supplies. The creation of a governmentally owned company would, therefore, seem to be in most respects an act of redundancy.

For related reasons I do not feel that a vertical breakup of the major companies, such as that proposed in S. 2387, would have any positive effect on supply or pricing in international markets. There is no evidence that independents have bargained more effectively than the majors in foreign markets. Historically the converse has been true. Irrespective of the relative strengths of majors and independents, however, there is little reason to think that either can force OPEC to "back down" today when there is ever increasing dependence of the United States on foreign oil. Last, it should be noted that most independent studies that have been conducted on the subject, including our FEA work and a prior study on the Outer Continental Shelf, have concluded that there presently is effective competition in the international petroleum industry. The higher operating costs and the possible loss of the economies of scale that would accompany vertical divestiture would probably result in higher, rather than lower, costs to the consumer.

Some of the other options available also have very little value in dealing with international oil. For example, the concept of removing or modifying federally created incentives for international petroleum production, such as the foreign tax credit and the intangible drilling cost allowance would have comparatively little effect on foreign markets but to the extent that they might actually weaken the ability of the U.S. companies in competing for foreign supplies. Producer countries have accelerated the trend toward nationalization and have, therefore, in-

creasingly become sellers of oil at wholesale to the companies. When costs for crude become business expense, other tax considerations cease being significant incentives. If, however, the United States alone were to remove tax incentives, then U.S. firms would tend to be disadvantaged vis-a-vis foreign competitors which have tax incentives similar to or more substantial than the tax credit and the intangible drilling allowance.

Similarly the regulation of the U.S. oil companies as public utilities in international transactions would be of little or no value. The comprehensive cost of service/rate-of-return type of regulation used for public utilities would entail heavy costs and be a very dubious benefit to consumers if applied to the oil industry. The most important point regarding this option is, however, that it could have no positive impact upon the stability or price of international petroleum supplies. It could "control the companies" but it would be irrelevant to the producer nations.

The establishment of a national system to limit petroleum imports has also been suggested as a means of reducing dependence. This "barrier" type of approach, however, would work to restrict supply with incidental costs and prices would rise to reflect the reduction in supply. We have seen this concept employed in the recently eliminated import tariff imposed by the Ford Administration which is probably the most efficient means of employing this concept. Unfortunately, however, neither the use of a unit price ceiling or a tariff could impact upon foreign supplies unless conducted in concert with all other consumer nations. The history of the energy crisis shows vividly, however, that the concept of a "consumer cartel" is not currently feasible.

It may be that an auction mechanism for importation rights to be sold by the United States could exert some downward pressure on price in an isolated instance. With due regard to the present posture of OPEC, which has been strengthened by the greater U.S. dependence on foreign oil, however, it is not realistic to think of this device as significantly influencing price.

Other options have some value in dealing effectively with foreign supplies, although all have their limitations. The concept of bilateral agreements on petroleum between producer and consumer governments appears to be of questionable utility in terms of stabilizing supply or price. Typically they have resulted in terms less advantageous than those customarily made by the companies. Bilateral arrangements which establish "special relationships" and provide for a mutual cooperation, such as those which the United States has with Iran and Saudi Arabia, do not directly affect supply but are of very low cost and may be very useful if they prove to assist in the creation of mutual interests between the United States and the producer country. The friendship and good offices which exist between the United States and Saudi Arabia, for example, may have had a material effect in its determination do not permit a price rise in the recent OPEC meeting. The Saudi importance in international oil and OPEC cannot be overestimated. With due regard to its immense reserves and vast productive capacity it literally determines world oil prices.

An option that has some positive potential is an organization of consumernation petroleum companies having substantial foreign supply arrangements along the lines of the London Policy Group, used in the 1971 negotiations in increasing the collective bargaining power of the companies vis-a-vis the producer countries. A precept of the organization would be full prior disclosure to the association of all proposed major supply arrangements, an understanding not to compete with other companies for certain categories of supply arrangements and "safety net" agreements to provide some measure of insurance for those companies which might lose sources of supply as a result of complying with joint decisions. For political appearance as well as ease of administration, the obligations of the member companies would be on an informal basis, the good faith performance of which would be left to the companies' respective governments to enforce as they saw fit. For companies with full or partial governmental ownership this would pose few problems in light of the high degree of cooperation with government which has historically been possible with such companies. Consumer governments would have low profile roles, consisting mainly of requiring that their companies live up to the obligations implicit in association membership. The concept of the review and approval of foreign supply arrangements mentioned before would assist in this respect. In any event, a high degree of cooperation among the major consuming nations would be necessary to maintain the effectiveness of the association and it is unclear whether this degree of cooperation has yet been achieved.

The purpose of the association would be to enhance the companies' bargaining position by the exchange of information, the seduction of upstream competition and the formulation of affirmative strategies for maximizing downward market pressure on prices by, for example, shifting purchasing patterns among the companies to focus softness in world demand on selected producer countries which are most in need of stable petroleum revenues. Such strategies would seek to maximize the temptation of producing governments to compete without creating a situation in which a direct confrontation to OPEC can be perceived. The association could also develop strategies for inducing producer countries to increase the attractiveness of their crude by such non-price variables as discounts for quality, rebates fo rservices rendered by the company, credit terms, delayed payment of purchase price of purchase price or acceptance of soft currency. By shifting the forum of consumer pressure for lower prices from a basically political structure in which OPEC cannot back down to the individual commercial transactions in which the producer may feel not only the need but the ability to give hidden price concessions, a situation may be created in which worldwide diminution of demand might be translated into a lower price.

The most substantial problem with this option would be the apparent inconsistency between government-endorsed industry-wide cooperation and the United States' traditional policy of encouraging competitiveness through the antitrust laws. There can be little doubt that an association of companies combining for the purpose of reducing competition among them in the acquisition of foreign petroleum supplies would raise very serious problems under the Sherman Act and that, absent an express exemption from the scope of the antitrust laws, company participation would not be forthcoming.

Whether competition in the upstream acquisition of petroleum supplies is of any value to the U.S. national interest is far from clear. Competition among the companies in their dealings with producer governments has resulted primarily in a lessening of their ability to deal with such governments which are a self-acknowledged cartel. The entry of independent companies into the international market in the 1950's and 1960's materially contributed to the strengthening of the bargaining leverage of producing governments. Such competition has undeniably diminished the ability of the major petroleum companies to take oligopolistic profits, but it has unfortunately enhanced the ability of producer governments to do so. In neither event does the ultimate consumer get the advantage of real competition. The companies, which have become price takers, simply pass on to consumers the cartel prices demanded by producing governments. The competition among the companies in their upstream activities has been one of the major forces leading to a cartel of producer governments, many times more oligopolistic than the companies ever were and completely beyond the reach of consumer-nation legal systems. Thus, the continued application of the antitrust laws to the upstream activities of the companies would seem if anything counterproductive to the national interest, at least in terms of the prices which American consumers will have to pay for petroleum.

The success of this option will require developing sufficient monitoring capabilities for the Government to know whether the association is being used to its fullest benefit. The best entity to supervise the performance of the U.S. companies would be an agency of the U.S. Government, acting alone or preferably in cooperation with other consumer governments, and thoroughly acquainted with the operations of the association. The assignment would logically fall to the agency given regulatory responsibility for international supply arrangements.

This option is not a panacea for the problems of international petroleum supply and price. It does, however, have the advantage of relative low cost and basic compatability with other options examined. If the U.S. companies cooperate, it could maximize their bargaining leverage in negotiations with producer governments. Whether or not this option would, in fact, have any effect upon prices is indeterminate.

The international organization of consumer countries that exists in the International Energy Agency ("IEA") created in 1974 also is a useful body for coordinating policy and planning. Its emergency petroleum reserve and emergency sharing plans, which were implemented by the Energy Policy and Conservation Act, provide an effective method for mitigating the effects of interruptions in foreign supply. The IEA realistically, however, cannot directly exert any impact on producer nations. As the crisis vividly showed the dependency of the industrialized consumer nations on foreign supplies is so extensive that a "consumer cartel" is not practicable.

The international option that has the most value in my judgment is that of establishing multi-lateral negotiations between producing and consuming countries—a mini-conference of the type proposed by Sheik Yamani and French President Giscard d'Estaing. In our FEA report we recommended a conference of this type with an organizational format along the lines of the General Agreement on Trade and Tariffs ("GATT") which has proven to have utility in the negotiation of complex multi-lateral issues and has relatively low political costs. A limited conference of this type is vastly superior to those sponsored by the United Nations in dealing with this type of issue.

Such a conference, the Conference on International Economic Cooperation, was undertaken in 1975 after extensive planning by the IEA. It is comprised of 19 petroleum exporting and other developing countries and 8 major industrial powers. While none of the Conference's meetings to date have been particularly auspicious, it is now organized into four commissions dealing with petroleum and other interrelated economic subjects. The format for a clumsy yet effective GATT type of progress is thus in existence. The Conference will have to deal with the complex issue of "indexation" as proposed by the Shah of Iran and by Third World nations at the recent UNCTAD Conference at Nairobi, but it could be the beginning of a process by which the ongoing confrontation between the producer and consumer nations is ameliorated. As discussions progress a wide range of interests and U.S. firms outside of the petroleum field will be affected. Ultimately, this form of cooperation could result in an international resources management plan, the elements of which could touch on many facets of all nations.

With respect to U.S. companies, at a minimum I would recommend regulation to require disclosure regarding all major foreign supply arrangements. If an appropriately independent administrative agency could be established, I would also recommend that the regulation extend to review and approval or disapproval of proposed terms based upon acknowledged policy objectives.

The cost of such a system could be very substantial and if energy supply to the United States or other consuming nations were materially impaired because of its operation, the economic consequences would be severe. On the other hand, events in global petroleum affairs have drastically changed the traditional system of supply, demand and distribution and the oil companies today are relatively powerless in dealing with producer countries. The basic question is whether the presence of the U.S. Government should be interjected, even if only indirectly, into international petroleum arrangements affecting U.S. national interests. The question is a highly political one, particularly because under prevailing conditions the implementation of this option would have little direct impact on world petroleum prices, at least in the short term. It does, however, provide both a window and a potential lever for the Federal Government in international petroleum affairs which could prove to be of benefit. If consumer nation cooperation is increased, if the world petroleum supply base is broadened, if consumer nations develop a strong program of conservation and utilization of alternative energy supplies and if safety net arrangements are established, regulation of this type by the U.S. and other important consumer governments could provide an instrument through which foreign supply arrangements are made more responsive to the national interests of consumer countries.

The oil industry strongly and with some reason opposes this form of regulation in view of its potential for economic disruption. The day of laissez-faire arrangements in international petroleum affairs, however, has clearly passed and a new role for the U.S. Government is indicated. Establishment of U.S. Government control points in international petroleum transactions might restore public confidence that such arrangements are consistent with national policy objectives.

It can readily be seen that the U.S. best interest is not served in attempting to "break OPEC," nor in seeking complete energy independence, but in stabilizing supply and price at reasonable levels for itself and other consumer nations and in maintaining sufficient international and domestic controls to achieve that end.

Summary of "An Evaluation of the Options of the U.S. Government in Its Relationship to U.S. Firms in International Petroleum Affairs"

I. Introduction

The United States, and indeed the free world, have benefited enormously from the technology, scientific expertise and managerial skills of the U.S.

petroleum companies, both the large, multinational companies and the independents. With relatively little governmental intervention, they were the leaders in creating the present global supply system which until recently operated in a highly efficient and adaptable manner and historically responded very well to the demands placed upon it. In the process these companies became and remain an important compenent of the U.S. presence abroad.

Beginning in the late 1960's and continuing at an accelerated rate in this decade, however, the bargaining position of the companies in dealing with foreign governments eroded to the point where today they are virtually the hostages of the producer countries who unilaterally determine price and supply policies and whose demands the companies are powerless to resist. The issue, therefore, is whether and how the presence of the United States Government should be introduced into international activities of the United States petroleum companies in order to ensure that the national interests of this country are appropriately and adequately protected.

The options available are many and include forms of national regulation, international arrangements, and combination of them. The issue is very difficult because it is clear that implementation of a number of the options could substantially impinge upon the efficiency of the international logistical system which industry has so creatively fashioned. At the same time, the importance of ensuring that freign supply arrangements do not conflict with identified national policy objectives cannot be minimized.

This Study was commissioned by the Federal Energy Administration ("FEA") in order to provide information and analyses to assist the political process in the evaluation of options. The Study attempts to identify the issues, marshal relevant data which illuminate them, and objectively explore the consequences of the various options. The Study does not endorse any option. Great care has been taken to assure that all viewpoints were comprehensively and fairly examined.

Several insights have emerged as this Study has progressed. First, the international oil industry is enormously complex. It is a system that has served and continues to serve the modern world well. Care must be taken to assure that changes introduced into the system do not seriously impair its efficiency. On the other hand, it seems clear that controls should be established in the system at critical points so that at a minimum the United States Government has informational access and an ability to assert its presence if it should be deemed to be in the national interest. An appropriate method of regulation of supply arrangements which would permit a Federal agency to review and approve or disapprove those which could significantly impact upon the national interest deserves careful study, as does an expanded program of consumer country cooperation and the initiation of broad-based consumer-producer country discussions.

Second, a confrontation exists between producer and consumer countries in which the companies serve not as a "political buffer" but merely as linkage. The confrontation has resulted in massive trade imbalances and created a perilous fiscal condition for many consumer countries, developed as well as developing. The recycling of petro-dollars by means of virtually any form of loan among the consumer countries is only a temporary device which to some extent ameliorates an increasingly grevious situation. There is, therefore, a clearcut need to eliminate the confrontation and this will require broadscale discussions between the leading consumer and producer nations. Predictably the discussions will involve the relationships between petroleum, other resources, and goods and services.

World petroleum is politics and the discussions will be political and difficult, but they must begin, begin soon and continue until a detente has been achieved in the present confrontation and order restored to world trade. Hopefully from them a set of norms can eventually be negotiated to guide producer-consumer country relationships. For the present it is clear that virtually every mutually acceptable change that is effected in the existing relationship between producer and consumer nations can only serve to improve it. Experience to date also clearly suggests that the issue of price levels is best raised indirectly and after progress has been made on other issues. It is also clear that a resolution to the Arab-Israeli dispute will be a prerequisite to successful producer-consumer discussions.

Third, there have been many misconceptions regarding international petroleum supplies and the energy situation generally which have been counterproductive in the evaluation and framing of rational responses to deal with the problem. The serious impact of our Middle Eastern foreign policies on the petro-

leum supply issue is often underestimated or misunderstood. The offshore, the Outer Continental Shelf, sometimes has been made to appear to be simply a target of convenience for the oil companies rather than an indispensable source of primary energy. The massive impact that environmental and political restraints have had upon the development of energy sources, such as nuclear, has not been appropriately understood. The United States imports over six million barrels of oil per day. When the Trans-Alaska Pipeline comes onstream approximately 1.5 million barrels of new oil will be coming into the west coast, with an additional .5 million estimated by 1980. If the Trans-Alaska Pipeline had been onstream and if we had been assiduously developing available sources of energy in this country in the early part of this decade, the positive aspects in producer country negotiations before, during and following the energy crisis would have been inestimable. On the other hand, little attention has been paid to the positive aspects of the energy crisis in terms of social and political attitudes. It is unlikely that the American people who increased their consumption of petroleum and other nonrenewable resources over 50% from 1960 to 1970, while their population was growing approximately 15%, would have been willing to accept the changes in life-style, consumption and controls that will be necessary to bring about needed conservation had they not received the shock of the crisis and the basic education in resource management which followed. These events brought the reality of the finite limits of global resources into focus for many in the consuming nations of the world.

Too little illumination has been shed on any of these matters by the government or the media. It seems still to be the belief of many Americans that the major oil companies either caused or in some way conspired in bringing about the energy crisis and the attendant higher prices. It is clear beyond any doubt that the companies benefited from the higher prices that resulted from a very unstable market condition, but it serves no purpose to perpetuate the myth that they brought it about. They did not and do not have the power to cause such an event. The producer countries have that power and that fact forms a very basic element of the issue which confronts us. An informed public will make the political task of selecting and implementing a particular option much easier. The Federal Government bears a burden in this regard and hopefully this Study will contribute to that end.

This Study has been particularly challenging because it has explored options in light of changing and anticipated world conditions. The precedental impact that the current petroleum situation has had upon other resources and commodities is well known. There is a commonality of solutions as well as problems to many resource issues. In this respect the utility of this report may transcend its relevance to international petroleum affairs.

II. STUDY CONCEPT

The Study was based upon an investigation of the historical, legal, political and economic aspects of the existing international system of petroleum supply and the probable effects of other options.

In order to elicit candid views from knowledgeable observers both in the private and public sectors the study contractor conducted a large number of interviews. Robert B. Krueger, the Project Director and a partner in the Los Angeles law firm of Nossaman, Waters, Krueger, Marsh & Riordan, and his associates conducted approximately 110 interviews with 217 people in the petroleum and public utility industries, governmental agencies in the United States and six foreign countries, and public interest groups. In addition, extensive use was made of questionnaires which were sent to foreign and domestic petroleum companies, public utilities, public interest groups and governmental agencies. Forty-two responses were received from petroleum companies, including six foreign companies, with an aggregate input of approximately 1100 pages. Nineteen of the 20 largest U.S. petroleum companies responded. In addition, 20 responses were received from U.S. public utility companies. All such information was collected and analyzed on a confidential basis. Economic assistance in the analysis of this material and other aspects of the Study was provided by Walter J. Mead, Professor of Economics, University of California, Santa Barbara. The Nossaman firm and Dr. Mead also conducted research into existing literature on related aspects of the Study. Research assistance and advice were also generously provided by the staff of the Subcommittee on Multinational Corporations of the Senate Committee on Foreign Relations.

III. A SHORT HISTORY OF THE SYSTEM

The history of international petroleum demonstrates that a free market has probably never prevailed with respect to international petroleum supplies. To the contrary, the large international companies endeavored with diminishing success to restrict competition and access to supplies and to control production so as to maintain prices largely for the same economic reasons that led to prorationing in this country on grounds of conservation pursuant to the Interstate Oil Compact. This is not to suggest that the conservation which resulted from higher prices was in any respect improper, but rather to point out that it was initiated by the companies to serve their own economic purposes, higher profits. Further it is clear that the United States had little difficulty in supporting a basically non-competitive industry abroad because it encouraged U.S. firms to control substantial interests in foreign resources.

It was not until the entry of the independents into international petroleum that serious competition began to develop among the companies. It was this competition and the surplus production that resulted from it during the 1950's and 1960's that made the implications of a free market clear to the producer countries: supply surpluses caused by spirited competition will lead to declining prices and producer government revenues. At this point, seeing the potential inability of the major oil companies to maintain prices, the economic logic of the Organization of Petroleum Exporting Countries ("OPEC") became unassailable to the producer countries. From that point on we have moved inexorably to the present situation in which the producer countries by political action protect and maintain the price of their most valuable depleting asset, petroleum.

In the early days of the petroleum industry, the United States was the dominant producer and exporter. From 1859, the first year of commercial production, through 1883 the United States accounted for over 80% of world production. In fact, with the exception of a few years when Russian production was greater, the United States continued to be the world's largest petroleum producer through the end of World War I. By the end of the War, however, the great demands on the country's petroleum resources caused by the war effort and the advent of the gasoline powered automobile created fears of an oil shortage in the United States. In addition, British companies had so effectively tied up valuable concessions in Persia (Iran) and Mesopotamia (Iraq), that a London newspaper boasted:

"Britain will soon be able to do to America what Standard Oil once did to the rest of the world—hold it up to ransom."

As a result, in the early 1920's the U.S. Government urged that American oil companies go abroad and attempt to develop their own foreign resources. To assist these companies, the United States Government actively encouraged adherence by all nations to the "Open-Door Policy", a policy originally formulated to secure privileges from 19th century China equal to those granted to European concessionaires.

The first test of the application of the Open-Door Policy to foreign petroleum concessions came in Iraq, when the Standard Oil Company of New Jersey ("Exxon") requested State Department assistance in purchasing a portion of the Iraqi concession held by the Turkish Petroleum Company (later Iraq Petroleum Company—"IPC") a company whose shareholders included Anglo-Persian Oil Company (later British-Petroleum—"BP"), Royal Dutch Shell ("Shell"), the largest French oil company, Compagnie Francaise des Petroles ("CFP", which acquired as a result of World War I reparations the interest held by the German Deutsche Bank), and an individual, C. S. Gulbenkian.

The United States took the position that any territory acquired under the Versailles Treaty should be held in such a way as to guarantee equal treatment "in law and in fact to the commerce of all nations" and that U.S. companies were, therefore, entitled to share in IPC. With the approval of the Department of State, Exxon also began direct negotiations with the IPC to purchase a share of the concession. The State Department indicated, however, that it would be inappropriate for the U.S. Government to lobby on behalf of a single company, and accordingly, a group of seven U.S. companies, including Gulf, Mobil, Texaco, Sinclair, Standard of Indiana and Atlantic, was assembled, all of which were represented by Exxon in the IPC negotiations. In 1928, the IPC shareholders finally acceded to a 23.75% American participation, but subject to very onerous conditions. The shareholders of the IPC had signed an agreement in 1914 stating that they would not compete against one another for future oil concessions

within the area of the old Ottoman Empire. As a condition of entry into the IPC, therefore, the participating American companies were required to become signatories to a similar agreement, the 1928 Red Line Agreement. While inconsistent with its Open Door Policy, the State Department consented to this arrangement.

The implications of the Agreement became clear immediately. Prior to signing the Red Line Agreement, Gulf had acquired an option for a concession on the island of Bahrain. Since Bahrain was within the domain of the old Ottoman Empire, the Agreement required that Gulf offer the concession to the IPC. When the British interests in the IPC, represented by BP and Shell (40% owned by British investors), balked at such a purchase and refused to allow Gulf to hold the concession alone, Gulf was left with no alternative but to sell the concession. Its sale brought a newcomer to the Middle East—the Standard Oil Company of California ("Socal").

One of the major problems then confronting the major oil companies with world markets (notably Exxon, BP and Shell) was how to maintain world petroleum prices. To this end, the "As Is Agreement of 1928" was negotiated pursuant to which the companies pledged to avoid overproduction and "destructive competition" in established markets. But with the discovery of the great East Texas field in 1931 and increased production in Venezuela, Iran, Iraq and the Orient, great surpluses developed which caused the price of petroleum to plummet from $1.30 per barrel in 1930 to $.24 per barrel in 1931. The situation was further exacerbated when Socal struck oil in Bahrain in 1932.

Therefore, when Socal sought to expand its interests by obtaining a concession in Saudi Arabia, IPC intervened to obtain the concession for itself and "keep out all competitors." Because Socal was not a participant in the Red Line Agreement or the "As Is Agreement" its potential access to cheap and abundant Middle Eastern crude presented a danger to the established European and Far Eastern markets of Exxon, BP and Shell. Uncertain about the potential of the concession, however, IPC outbid by Socal, to which the concession was ultimately granted in 1933. The State Department remained in the background throughout these negotiations. Later it was to claim that this non-intervention had actually benefited CASOC,[1] as evidenced by the fact that in 1939, when extended concessions were negotiated, CASOC received them even though they offered less than government-controlled Japanese and German companies, "whose diplomates at Jidda were extremely pressing with their offers."

Another example of the U.S. Government's invocation of the Open Door Policy occurred with respect to the acquisition of a one-half interest in the Kuwait concession by Gulf in the early 1930's. After Gulf had begun negotiations with Kuwait, the British invoked a provision in a previous agreement with Kuwait which stipulated that no oil concession would be awarded without British approval. The U.S. Government invoked the Open-Door Policy on behalf of Gulf but was unsuccessful until Kuwait rejected the bid of both BP and Gulf in the hope of creating bidding competition. BP and Gulf then compromised and split the concession between them. In the process BP assured itself that Kuwait production would not be used competitively against it in its existing markets by requiring Gulf to sign an agreement, similar to the "As Is Agreement of 1928", which provided that Kuwait oil would not be distributed so as to injure the marketing position of either company and that, at its discretion, BP could supply Gulf's crude requirements from production in Iran or Iraq in lieu of maintaining Kuwaiti production.

By 1934, therefore, most of the promising regions of the Middle East had been carved up between predominantly British and American interests and a complex web of interrelationships had been established. Concessions in Iran, Iraq and Kuwait had all been divided to permit production decisions that would prevent a glut of petroleum on the market and consequent lower prices and profits. The potential nemesis remained in Saudi Arabia.

Unhampered by agreements to restrict supply, Socal possessed the potential to upset the delicately balanced supply situation in the Middle East. Socal, however, lacked the capital necessary to adequately develop its vast Saudi Arabian concession and therefore needed a financial partner. BP and Exxon

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[1] The California Arabian Standard Oil Company ("CASOC") was the subsidiary to which Socal originally assigned its Saudi Arabian concession. In 1936, this company became jointly owned by Socal and Texaco. In 1947, when a merger with Exxon and Mobil was effected, a new corporation, the Arabian-American Oil Company ("Aramco") was created to operate the concession.

were interested, but the Red Line Agreement came back to haunt them when CFP, which owned 23.75 percent of IPC, and Gulbenkian, who owned 5 percent, vetoed a scheme to amend the Agreement to exclude Bahrain and Saudi Arabia. Disagreement among the IPC shareholders also prevented BP and Exxon from negotiating with Socal to purchase its anticipated production from Saudi Arabia. Its discussions with IPC being unfruitful, in 1936 Socal sold a one-half interest in its Saudi Arabian concession to Texaco (which had earlier dropped out of the IPC) in exchange for $3 million in cash and $18 million in deferred obligations to be repaid out of sales of crude oil. Earlier in the year, Socal had acquired a one-half interest in Texaco's marketing facilities east of Suez in exchange for a one-half interest in the Bahrain concession. Accordingly, Socal and Texaco were well prepared to produce and market the Saudi Arabian oil which they finally struck in 1937.

When the Second World War broke out, however, Saudi Arabian production dwindled to the point where King Ibn Saud was continually pressuring CASCO to provide him with additional revenues. By 1941 the company had advanced the King approximately $6.8 million against future royalties. Asserting that it was unable to make additional advances, the company then sought U.S. Government aid for Saudi Arabia. When it was determined that such assistance could not be made available under existing law, President Roosevelt suggested that the British should advance to the Saudi Arabian Government a portion of their $400 million Lend Lease Loan received from the United States. The British Government thereafter advanced over $30 million to Saudi Arabia from 1941 through 1943. Fearing that the apparent largess of the British would greatly expand their influence in Saudi Arabia, CASCO also advanced to the Saudis approximately $8 million from 1940 through 1943. CASCO also began an extensive lobbying effort to obtain direct U.S. financial aid for Saudi Arabia. The company achieved success on February 18, 1943 when the President declared the defense of Saudi Arabia vital to that of the United States, and Saudi Arabia thereby became eligible to directly receive Lend Lease funds.

It was now becoming increasingly apparent that CASCO's position in Saudi Arabia was largely dependent upon the diplomatic and financial assistance of the United States. This condition soon engendered in some the belief that the U.S. Government should directly take control of the Saudi Arabian concession. Foremost among the proponents of such action was the Secretary of the Interior, Harold Ickes. At the same time, there was mounting concern among various experts as well as military and political leaders that the fuel requirements of the War were causing our domestic reserves to fall to seriously low levels. In June of 1943 Ickes wrote to President Roosevelt encouraging him to organize a "Petroleum Reserves Corporation"and recommended that the "first order of business of the Corporation should be the acquisition of a participating and managerial interest in the crude oil concessions now held in Saudi Arabia." The State Department was opposed to this proposal, believing it to be both unnecessary and unacceptable to King Ibn Saud. After an extensive bureaucratic debate, President Roosevelt concurred with Ickes, stating that the acquisition of the Saudi concession was "the least ambiguous and most effective way to increase the security of our future oil supply." CASCO, however, unequivocally rejected the proposal that the United States purchase the entire concession. Ultimately, an agreement appeared to be reached for the purchase of a one-third interest, but when Texaco increased its asking price, negotiations broke down and were terminated. Secretary Ickes later remarked:

"They (Socal and Texaco) came up here to the Hill and built a fire under us on the theory that this was an attempt on the part of the Government to take over a private-business enterprise, which of course, was against the American tradition, as they put it, and perhaps it was. *But this was more than a business enterprise, this involved the defense and safety of the country.*" [Emphasis added]

After failing to negotiate the purchase of the Saudi Arabian concession, the Petroleum Reserves Corporation considered another project which envisioned U.S. construction of a pipeline from the Persian Gulf to the Eastern Mediterranean. This proposal, however, encountered such bitter attacks from the industry and certain members of Congress that it was soon scrapped. With this second failure, the Petroleum Reserves Corporation faded into obscurity and was eventually disbanded.

Unable to directly interject itself into the Middle Eastern petroleum industry, the U.S. Government then turned to the concept of improving the access of American companies to the petroleum resources of the Persian Gulf states. British interests so thoroughly dominated the area that in 1943 they accounted for 81% of Middle Eastern oil production compared to a mere 14% produced by U.S. companies. The efforts of the U.S. Government culminated in the draft Anglo-American Oil Agreement of 1944. The Agreement was largely a statement of general principles but also provided for the creation of an International Petroleum Commission to oversee international petroleum affairs and recommend methods by which supply and demand could be correlated "so as to further the efficient and orderly conduct of international petroleum trade." Industry opposed the Agreement and it subsequently was never ratified by the Senate.

The most significant consequence of this series of unsuccessful forays into international petroleum affairs was that the U.S. Government thereafter implicitly left the function of control and supervision over the international petroleum system to the multinational petroleum companies. Unlike the British, with their interest in BP, and the French, with their interest in CFP, the U.S. Government now, for the most part, divorced itself from the international petroleum industry. These events signified as well a virtual cessation of the Government's efforts to obtain an information base independent of the companies, which might help it to formulate petroleum policy and take independent action.

Previously frustrated by the Red Line Agreement, after the war Exxon, together with Mobil, renewed its efforts to purchase a portion of the Saudi Arabian concession from CASOC. It was still necessary, however, to nullify the Red Line Agreement. A legal technicality provided the answer when English counsel opined that CFP and Gulbenkian had become "enemies", and therefore broken the Agreement by vitrue of remaining in France during the German occupation. The British Government acceded to this approach when Exxon and Mobil agreed to purchase large quantities of crude from BP's production in Iran or Kuwait over a twenty-year period. The French, represented by CFP, and Gulbenkian were irate since the Red Line Agreement had worked to their benefit by tying their fate to that of their more aggressive partners. Years of diplomatic haggling followed, with the State Department supporting the position of the U.S. companies. In 1947 Exxon and Mobil finally negotiated an agreement with CASOC for a 30% and 10% interest, respectively, in the Saudi Arabian concession. In November of the following year all barriers to the merger of these companies into a new company, Aramco, were removed when an accord was reached ending the Red Line Agreement.

Shortly thereafter, Aramco's position in Saudi Arabia was threatened by the appearance of J. Paul Getty in the Middle East. For many years, Getty had sought a concession in this area, and when in 1949 he saw an opportunity in the Neutral Zone, jointly controlled by Kuwait and Saudi Arabia, he seized upon it. His company negotiated a concession in which it agreed to pay a royalty of $.55 per barrel, whereas Aramco was paying Saudia Arabia only $.21 a barrel.

King Ibn Saud's ministers immediately demanded more money from the Aramco shareholders. Turning to the U.S. Government for assistance, Aramco was advised that, as an alternative, it might relinquish the parts of its Concession which it had not developed so that Saudi Arabia could then auction them for additional revenues. There was yet another alternative, however, which Aramco preferred. In 1943 Venezuela had enacted a 50% income tax on the difference between the cost and selling price of Venezuelan crude, and this tax had been declared creditable against the United States taxes which would be imposed upon these same revenues. This ruling was in accordance with the foreign tax credit provisions of the Internal Revenue Code which were enacted to avoid double taxation. If Saudi Arabia were to enact an income tax, all or a portion of the $43 million which Aramco paid to the United States in taxes in 1943 might be diverted instead into the Saudi Arabian treasury. The Treasury and the State Departments were not opposed to this device, and in fact, a Treasury official advised the Saudis of the differing consequences between the imposition of an income tax and an increase in the royalty rate. Accordingly, in November of 1950, King Ibn Saud imposed a 20% income tax on Aramco, which by the end of the year, with Aramco's consent, was increased to 50% in accordance with the Venzuelan precedent. As a result, Aramco's payments to

the Saudi Arabian Government increased from $56 million in 1950 to $110 million in 1951, whereas in the same period tax payments to the United States decreased from $50 million to $6 million. The precedent was thus set for company acquiescence to the continuing demands for higher revenues by the producer governments.

The 50–50 tax arrangement in Saudi Arabia was soon imitated by Iraq and Kuwait. In Iran, however, trouble between BP and the Iranian Government had been brewing for some time and the announcement of the 50–50 arrangement in Saudi Arabia simply intensified the dispute. In 1947, the Iranian Parliament had enacted a law which required that the terms of its concession with BP be renegotiated to provide the government with additional revenues. BP, with the active support of the British Government, however, remained intransigent to the Iranian demands, and sentiment for nationalization of BP began to build. Hostilities grew so intense that in 1951 Premier Razmara was assassinated after he informed the Iranian Parliament ("Majlis") that his experts advised against the nationalization of BP. The radical Dr. Mohammed Mossadegh, who had led the opposition against BP in the Majlis, succeeded Razmara. A bill nationalizing the assets of BP was immediately presented to the Majlis, passed unanimously, and signed by the Shah.

The British considered the actions of the Iranians to be a clear violation of international law, and accordingly, put the world on notice that they would take legal action against any company which purchased and tried to distribute oil produced from their former concession. While the U.S. Government was opposed to the use of force, it did not oppose the British position and brought "influence to bear in an effort to effect an early settlement of the oil controversy between Iran and the United Kingdom, making clear both our recognition of the rights of sovereign states to control their natural resources and the importance we attach to international contractual relationships." (President Truman, June 27, 1951.) Virtually all international petroleum companies took BP's warnings seriously and declined to purchase Iranian oil. Iran was thus faced with a virtual embargo on its production, the effects of which impacted upon its economy to such a degree that by 1953 a $24 million loan from the United States was required to purchase necessary food supplies.

Within the U.S. Government, concern was mounting that the state of affairs in Iran would lead to increased Soviet influence and possibly Soviet domination. In 1952 the United States, therefore, devised a plan by which a consortium of the major U.S. petroleum companies and BP would be used to get Iranian production onstream once again. Exxon, Socal, Texaco, Mobil and Gulf were, however, at the time under invesigation by a Grand Jury for possible criminal violations of the antitrust laws arising out of their Middle Eastern operations. The U.S. Government faced a dilemma—it would now be asking these companies to engage in precisely the type of activity for which they were being investigated. Accordingly, the Departments of State, Defense and Interior prepared a report for the National Security Council which recommended that the criminal investigation be terminated, since its continuation "could impair not only the immediate position of the oil companies abroad, but also the broaded interest of the United States as a whole." On January 12, 1953, President Truman instructed the Attorney General to discontinue the criminal investigation against the companies and to substitute a civil suit. By this decision, the President acknowledged that the presence of the major U.S. petroleum companies in the Middle East was an important objective of American foreign policy and that national security conerations should be paramount in evaluating their conduct.

By 1954 BP was reconciled to the concept of a consortium in which they would have a 40% interest and receive compensation from their new partners (which included the five U.S. majors, CFP and a small group of U.S. indepependents). Moreover, with the assistance of the U.S. Central Intelligence Agency, the Shah had by this time deposed the radical Mossadegh. With the major obstacles removed an August 1954 Agreement was consummated with the Consortium.

The Agreement seemed universally attractive. With the Soviets excluded and the access of U.S. independents to Iran's production sharply limited, the major petroleum companies were better able to prevent a competitive increase in the supply of petroleum on the world market which would lower prices and profits. The British gained re-entry into Iran and were compensated for the reduction in their interest to 40%. The United States achieved a victory in the "Cold

War." The Iranians benefited from a restoration of all oil revenues while retaining ownership over its own resources. Under the Consortium Agreement, the production was now owned by the National Iranian Oil Company ("NIOC") which was to sell the oil to the various trading companies established by the Consortium members. An important precedent had been established since the Consortium received only the right to purchase the production at a discount from market price without enjoying an equity interest.

One of the only individuals unhappy with the Consortium arrangement was Enrico Mattei, the head of Ente Nazionale Idrocarburi ("ENI"), the Italian national oil company. During Mossadegh's reign he had refused to deal in the oil which Iran had "stolen" from BP and expected to be rewarded for his loyalty. He was not given a portion of the Consortium, and he retaliated. In 1957 he negotiated a joint venture with the Egyptians and the Iranians, under which the countries would share equally with the exploring company. Along with the Consortium arrangement, Mattei's joint venture further underminded the concessionary system.

At the same time, independent petroleum companies were expanding their role in the international petroleum system. When oil was discovered in Libya in the 1950's instead of granting concessions to a restricted group of major companies, as had been done in Saudi Arabia, Kuwait, Iran and Iraq, Libya favored the independents, awarding seventeen different companies a total of eighty-four concession areas. Libya hoped thereby to stimulate the rapid development of its petroleum resources. Nor was Libya the only country in which "outsiders" were obtaining concessions. In 1958 the Japanese Petroleum Trading Company successfully negotiated an offshore concession in the Neutral Zone between Saudi Arabia and Kuwait.

The intricate supply system of the international majors had begun to falter. With Iranian production onstream again and Libyan production beginning to make its impact on European markets, the majors found it increasingly difficult to satisfy the incessant demands of the Shah and King Ibn Saud for increased production levels, without at the same time flooding the market with excess petroleum that would force prices down significantly.

In Iraq the partners in the IPC quote purposely and systematically curtailed known development and slowed production as a consequence of pressures in Iran and Saudi Arabia. But ultimately trouble developed for IPC. Angered by the British and French attack on Egypt in 1956, the landing of the U.S. Marines in Lebanon and long disturbed over the amount of revenues derived from IPC, a new revolutionary regime in Iraq under General Kassem threatened to nationalize the IPC concession. In 1960, the Iraqi Government finally took over 99.5% of the concession area, permitting IPC to retain only its producing wells.

Even with decreasing production in Iraq, the world petroleum surplus was such that in 1959 Exxon felt compelled to lower the posted price for Saudi Arabian light crude by 18¢ per barrel. An additional cut in the posted price occurred in 1960. The posted price system had previously tended to insulate producer government "take" from declines in market prices. These actions lowered producer government revenues per barrel and soon prompted a response.

The Venezuelan Government feared that the 1959 posted price reduction would give Middle Eastern crude an advantage in world markets, in addition to its inherent competitive advantage of a much lower production cost. The Venezuelans, therefore, began to advocate unified producer government action to counteract the power of the multinational oil corporations to determine prices, output levels and thereby government revenues in producer countries. In 1960, Venezuela's initiative culminated in the creation of the Organization of Petroleum Exporting Countries ("OPEC"). Immediately, OPEC's five original members, Venezuela, Saudi Arabia, Kuwait, Iran and Iraq demanded that the petroleum companies operated in their countries restore former price levels and agree to consult with the organization before reducing prices again.

During the 1960's OPEC membership expanded and the dependence of the consuming countries on OPEC oil increased. The major petroleum companies continued their efforts to appease the various producer governments with acceptable growth rates in their respective production levels while at the same time maintaining current price levels. In addition, the Consortium and Aramco, in particular, had to reconcile the conflicting needs of the individual parent companies. Although the multinational petroleum companies were able to cope with these problems, their control over production and pricing decisions was increasingly jeopardized by the nationalistic aspirations of the producer governments.

As these trends developed, the U.S. Government remained in the background, not attempting to influence or control the situation. In fact, the capacity of the U.S. Government even to monitor, much less respond, to changes in this important industry diminished significantly.

In 1969 Colonel Qaddafi overthrew Libya's King Idris and immediately demanded substantial increases in the posted price. When negotiations began, Qaddafi's regime cleverly narrowed them to discussions with two companies, Exxon and the Occidental Petroleum Company. Occidental, a small and relatively unknown company, had surprised many of its competitors when in 1966 it obtained some of the most promising concession areas put up for bid by Libya. By 1970 Occidental had become a large company due primarily to its Libyan output which accounted for practically all of its production outside the United States and the major portion of its revenues. Perceiving Occidental's vulnerability, the Libyans broke off negotiations with Exxon to concentrate solely on Occidental. In an effort to force the companies, and particularly Occidental, into acquiescence to their demands, the Libyans began imposing production cutbacks. Occidental's production was cut from 800,000 to 425,000 barrels per day, while total Libyan production cutbacks totalled approximately 800,000 barrels. Realizing that it could not hold out very long against such tactics, Occidental sought Exxon's assistance. Exxon refused, however, to provide Occidental with a "safety net"—replacement oil in the event further cutbacks were imposed upon it. Seeing no viable alternative, Occidental agreed to a 30¢ increase in the posted price, an additional 2¢ each year over the next five years, and an increase in the income tax rate from 50% to 58%. Most of the other independents in Libya now yielded and signed agreements roughly similar to that negotiated with Occidental. After the U.S. Government advised the companies that it could be of minimal help to them, the major companies operating in Libya agreed to similar increases in the income tax rate and posted price. Libya's success demonstrated to all producers that they could impose unilateral changes upon the companies without being challenged by consumer governments, particularly the United States.

Before the end of the year, most other producer governments had demanded and obtained a 55% tax rate. "Leapfrogging" was now becoming an accepted pattern. At the 1970 OPEC conference in Caracas, resolutions were adopted demanding a 55% tax rate for all member states and establishing a pricing committee of Persian Gulf countries ("Gulf Committee"). The Gulf Committee then called for immediate negotiations with the petroleum companies in Teheran.

Fearing that Libya would attempt to better any terms negotiated with the Gulf states alone, the industry believed it had no alternative other than to present a united front against OPEC. Accordingly, a message was delivered to OPEC stating that the companies would negotiate only for an OPEC-wide settlement. A "safety net" agreement was also reached among the various Libyan producers which guaranteed alternative sources of crude to any company whose production was cut by the Qaddafi regime.

The companies appreciated that their plan to negotiate jointly with OPEC, as well as the Libyan Producers Agreement, might pose serious problems under the U.S. anti-trust laws. Accordingly, clearances were obtained from the Department of Justice in the form of Business Review Letters and the companies organized a London Policy Group, the purpose of which was to develop and implement a consistent strategy for the impending negotiations. This strategy was, however, promptly upset by the Department of State in a clumsy and uninformed effort to support it.

Upon contacting the Shah the Department "made it clear that the U.S. Government was not in the oil business and did not intend to become involved in the details of producing countries' negotiations." Having been warned by the Shah that OPEC resented the condition of an OPEC-wide agreement, and assured that Persian Gulf countries would adhere to an agreement negotiated with the companies regardless of any more favorable terms negotiated elsewhere, the State Department advised the companies to carry on separate negotiations with the Gulf Committee.

The companies were dismayed that the United States had failed to appreciate the importance of their fundamental negotiating strategy, and without U.S. Government support, they decided OPEC-wide discussions were no longer feasible and thereafter commenced separate negotiations with the Gulf Committee. The failure of U.S. policy at this critical juncture reflected the State Department's lack of a comprehensive and coordinated approach to international petroleum issues. U.S. officials appear to have been preoccupied with more limited objectives,

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such as maintaining friendly ties with the Shah and assuring that both he and the Saudis had sufficient revenues to allow them to play their roles in the Gulf.

The Gulf Committee negotiations culminated in the 1970 Teheran Agreement, which gave the Gulf prducers, among other things, an immediate 30¢ per barrel increase in "government take". The following year an agreement was reached in Tripoli increasing Libyan revenues by approximately 65¢ per barrel.

The ink had barely dried on these documents when OPEC renewed its demands upon the companies. This time, the producer governments sought subtle price increases through obtaining "effective participation" in the oil companies' assets and through adjustment of the currency exchange rates applicable to the payments made to producer governments. By 1972 an agreement had been reached in principle between the companies and the Persian Gulf producers whereby the governments were given a 25% ownership in the production. As before, Libya attempted to outdo the Persian Gulf states by demanding and eventually receiving a 51% "participation" from the companies operating within its borders. Thereafter, the "leapfrogging" continued with Saudi Arabia and Kuwait indicating to the companies that the 51% participation obtained by Libya would not be sufficient to satisfy them.

Before new terms could be negotiated, however, the 1973 Arab-Israeli War erupted. After the United States announced that it would supply Israel with military armaments to replace its losses, the Arab petroleum producing countries announced that they would cut their crude production by 5% each month and embargo all shipments to the United States and the Netherlands, until Israel returned to its 1967 borders and the rights of the Palestinian people were recognized. When Saudi Arabia announced an initial crude oil production cutback of 10%, Aramco immediately cut its production by slightly more than the required amount, a clear example of the dependence of the companies on their host governments.

Although the Arab production cutbacks were eventually increased to 25%, the impact of the embargo was blunted by increased production in non-Arab countries and by the skillful and evenly-balanced distribution of available supplies by the major petroleum companies. Throughout the embargo, the U.S. Government remained in the background, relying upon the companies to make an equitable distribution of their supplies.

The outbreak of Middle East hostilities gave an added impetus to OPEC demands for price increases. After negotiations between OPEC and the companies reached an impasse in Vienna in early October, the Gulf Committee met in Kuwait and imposed a unilateral posted price increase of 70%, raising the price of Saudi Arabian light crude from $3.01 per barrel to $5.21 per barrel. All pretense of negotiations was abandoned in December, 1973 when OPEC decreed an additional 130% hike in posted prices, raising the price of Saudi Arabian light crude to $11.65 per barrel. Although there was no direct link between the Arab oil embargo and the price increases, the shortages of oil resulting from the embargo and production cutbacks had driven up spot market prices and encouraged the price increases.

Throughout 1974, posted prices remained stable but OPEC progressively increased produced government revenues by escalating demands for "participation" and by raising taxes and royalties on the diminishing share of "equity" crude. In the first half of the year, the Arab Gulf states successfully negotiated for a 60% interest in most oil companies. By December, 1974, agreements on 100% "participation" appeared imminent. In addition, OPEC has moved closer to a "unitary pricing structure," thereby reducing the price advantage historically enjoyed by the concessionary companies. At the present time, the multinational oil companies continue to perform their traditional role of developing petroleum resources and bringing them to market; however, control over production and pricing has been transferred almost entirely into the hands of the OPEC countries.

Conclusions

In attempting to determine the role which the United States Government should play in the international system of petroleum supply and pricing one must be cautious in looking to history for the answer. In fact, the international petroleum industry has been radically altered since the beginning of this decade and traditional assumptions regarding the power of the multinational oil companies lose their meaning when considered in the context of an effective cartel

of petroleum exporting countries. For roughly four decades, with amazing dexterity, the major multinational oil corporations manipulated production in an effort to sustain prices throughout a network of oil producing areas. These efforts became progressively less effective as competition asserted itself.

During this period the U.S. Government has seen fit to interject itself into the international petroleum system in only a sporadic and sometimes inconsistent manner, and always on an ad hoc basis. In fact, the Government has never chosen to inform itself or develop its expertise to the point that it possessed the capability of responding to a situation such as that which developed in Libya in the early part of this decade. The blame for this cannot be laid solely on the shoulders of the Government; the companies have sought to perpetuate the independence and secrecy under which they have grown accustomed to performing their essential tasks. It may be debatable whether the U.S. Government could have improved the present petroleum situation had it kept more abreast of the changing relationship between the industry and producer governments. At the same time, it is difficult to imagine that had the Government done this, the situation would be any worse than it is today.

At the very least the history of the last five years demonstrates that the Government must make every effort to fully inform itself and to develop the competence required to evaluate and cope with developments in international petroleum affairs, since the companies standing alone no longer serve as a viable instrument to effect national purposes. The Government cannot do this through the intermittent and inconsistent involvement which it has had in the past. A consistent and rational national energy policy can only be formulated if there is a foundation of accurate information underlying it and if there are reliable methods to implement it nationally and internationally.

On the infrequent occasions when the U.S. Government has seriously involved itself in international petroleum affairs, limited short-term objectives have generally taken precedence over assessments of America's longer range interests. In particular, a lack of confidence in the Congressional foreign aid appropriations process has led policymakers to favor less conspicuous methods of extending financial assistance to countries deemed important to our foreign policy objectives. Increasing the payments of U.S. oil companies to producer governments through vehicles such as the foreign tax credit has, therefore, appeared a seductive alternative to a more politically controversial direct foreign assistance program. In 1970, for example, Washington appears to have ignored the potential, long-term costs of capitulating to Iranian demands for separate negotiations in a short-term effort to avoid a disruption in supply and appease the Shah's desire for increased petroleum revenues.

In retrospect, U.S. policy appears to have been short-sighted in dealing with the problems of foreign petroleum supply and price. Nonetheless, it should be recalled that at the time these decisions were made, the price of domestic oil far exceeded the cost of foreign production and any cost increases in foreign crude were largely passed through to foreign markets rather than U.S. consumers. Import controls were deemed necessary to protect the domestic industry. Moreover, in 1970 U.S. dependence on imported petroleum, restrained by quotas, stood at 22%, a modest increase from 1960 when the United States imported 18% of its petroleum requirements. Accordingly, the rapid acceleration in U.S. dependence upon foreign oil which developed after 1970 (with the United States importing 35% of its petroleum needs by the end of 1973), while predictable, was largely unanticipated by American policymakers. Viewed in this light, the limited response of the U.S. government to international petroleum developments can be more readily understood.

Another impression left by this history is that serious misconceptions abound in our society regarding the power and attitude of the major multinational petroleum companies. In fact, these companies have not willingly created the present situation but with no bargaining leverage left, they have largely acquiesced to it. Accordingly, to attempt to rectify our present predicament by focusing solely on the companies and by taking action which only affects them, is to deny existing realities. While constructive legislation to assure that the companies are responsive to the public interest of the people of the United States is desirable, it must be recognized that this alone will not solve the problems of the instability of our foreign supply of crude oil or reverse the sudden and enormous increases in the price of crude oil imposed by OPEC.

A further historical observation can be made regarding the effects of competition in the international petroleum system. One of the fundamental assumptions of the capitalistic system is that competiion will minimize costs of production and maximize the welfare of society. Looking at the recent history of the international petroleum industry, one sees that competition in this area has been at best a two-edged sword.

Critics of the industry argue that it has until recently been oligopolistic, controlled markets and rigged prices in international petroleum. In support they cite the Red Line and "As Is" Agreements and the Cartel case. The industry claims it has been competitive, citing the entry of Socal into the Persian Gulf and later the entry of the independents on a global scale with the resultant downward pressure on price that ultimately resulted in the formation of OPEC to control price.

Both are true to an extent. The American companies did not form an oligopoly. They came into one and thereafter were always maneuvering with one another for advantage in a not uncompetitive way. On the other hand, the companies were able to contain supply expansion sufficiently to keep price substantially above cost of production which is where competition would have placed it. The spread between cost of production and the downstream sales price of the majors was sufficient to allow the independents to pay substantially more for oil to the producer upstream, cut prices to the consumer downstream and still make a profit. It must be observed that the pricing practices of the U.S. majors in international petroleum affairs had the positive aspect of being high enough to cause some conservation of a vital depleting resource and the generation of sufficient capital to develop necessary foreign infrastructure, but low enough to permit the rapid development of industrial economies. In retrospect it is difficult to assess what pricing structure might have obtained in the absence of control by the majors during the formative years of Middle Eastern development. It is clear, however, that their practices brought stabiltiy to a then very erratic market, both domestically and abroad, and that the American consumer was provided with petroleum products at a relatively modest cost. In any event, regardless of past practices, it is also clear that for more than a decade there has been effective competition among the companies.

The competitive forces which brought a company like Occidental into Libya, however, undercut the ability of the established major petroleum companies to influence world petroleum supplies and prices. Because they forebode further cuts in price, it encouraged producer governments to act in unison to protect their common interests. The entry of the independents also showed the various producer governments that others besides the major multinational companies have the ability and skills to produce and distribute their petroleum resources and are willing to pay a much greater price for the opportunity of doing so.

With the dramatic price increases imposed by OPEC in the past eighteen months, it has become painfully clear to all petroleum importing countries that any oligopolist's profits generated by the major petroleum companies in the past are miniscule compared to the enormous revenues now being generated by an effective cartel of producing countries. Accordingly, consumer nations must now seriously consider whether competition among their companies for access to crude serves a useful purpose if the predominant product of such competition is to increase the bargaining leverage and ability of OPEC to impose unilateral price increases.

This is not to say that competition among the petroleum companies of the various consuming nations is the sole, or even the major, reason why OPEC has been able unilaterally to increase petroleum prices four-fold. To be sure, the ever-growing dependence of consumer nations upon OPEC petroleum is a major cause of our difficulties today. Nevertheless, if competition for access to production in OPEC countries is counterproductive from the viewpoint of the ultimate consumer, serious consideration must be given to whether such competition should be permitted, much less encouraged, by consumer governments. Coordination and cooperation among consumer governments and the many petroleum companies operating internationally may be difficult, but recent history seems to indicate that it is desirable.

Moreover, the emerging trend in OPEC toward a single price structure, 100% government participation and transparency in transactions could put the oil companies essentially in the position of purchasers of crude, in which case they would be both limited in terms of upstream profits and lose the tax advantages

that they have enjoyed in the concession form of arrangement. By the same token the producer countries would clearly identify the huge amount of profit which they are receiving in international petroleum transactions. With due regard to the past ambiguities of international petroleum transactions, it has been difficult to determine in many cases exactly what profits the countries and companies have respectively made, giving rise to the common charge that the companies and the producer countries conspired to raise prices. Once these figures become transparent the oil companies will no longer be able to be portrayed as the only villians and world opinion may shift in its assessment of OPEC.

The power of the major producer countries to date has been enhanced by the hostage character of the companies and proposals have been made in the United States that our companies should be prohibited from having preferred access to oil in these countries because it perpetuates that fact. The present trend would indicate that producer countries in order to effect their goals such as complete nationalization and an arm's length character to all sales transactions, may be paying very high economic costs. If the trend continues, the producers may accomplish that which the United States individually cannot: the elimination of the hostage position of the oil companies. The ensuing competition for crude oil contracts could, in the long run, introduce a great deal of stress upon the cartel's price structure and cause it to break. In addition, transparency in international petroleum transactions from both producer (OPEC) and consumer (IEA) nations' standpoints will give viability to the needed deliberation between the two groups. Such transparency will also tend to result in a degree of self-regulation within the petroleum industry.

IV. POLICY OBJECTIVES OF THE FEDERAL GOVERNMENT

While the U.S. Government has from time to time in the past been concerned about particular issues relating to petroleum and other energy sources, until the early 1970's there was no consciousness of a need to develop a consistent and comprehensive national policy regarding energy. Not surprisingly, energy policy was the child of the "energy crisis." One can speak of national energy policy before that time only in a de facto sense, as the sum total of the laws, regulations, ad hoc actions and deliberate inactions of the government which affected the flow of energy in our society and economy.

Today, national energy policy can be described as a set of governmental actions designed to be consistent and comprehensive in dealing with difficult energy-related issues that will permanently be with us. Yet the word "policy" is a metaphor for a reality whose true nature is most elusive. Although the word denotes a settled, definite course of action, in fact policy only needs to be formulated where problems and alternatives are so complex that a single definite course of action is insufficient.

"Energy policy" derives from a variety of objectives or values. However, the most basic objectives or values are also the broadest and most abstract (*e.g.*, "national security" and "the maintenance of viable foreign relations") and it is often difficult to relate these most basic objectives to more limited, specific, and frequently short-term objectives, (*e.g.*, adequacy of supply of naval bunkers during an embargo as distinguished from the long-term concern over stability of supply).

Development of a national energy policy

An important element of national energy policy is the very commitment to developing it. This commitment was reflected in President Nixon's Message on Energy of June 4, 1971. It proposed a number of steps to increase the supply of clean energy in America, such as stepped-up research and development, increasing energy supplies from Federal lands and a new Federal organization to plan and manage energy programs.

The Executive Order establishing the Federal Energy Office ("FEO") on December 4, 1973, declared that the Administrator of the FEO "shall advise the President with respect to the establishment and integration of domestic and foreign policies relating to the production, conservation, use, control, distribution, and allocation of energy and with respect to all other energy matters." On May 7, 1974, the President signed P.L. 93-275, the Federal Energy Administration Act of 1974, which created the Federal Energy Administration ("FEA"), successor to the FEO.

Both the Presidential and Congressional commitment to the development of a coordinated energy policy were again demonstrated in October, 1974, when Presi-

dent Ford declared his intention to create a new National Energy Board charged with developing a "single national energy policy and program." Shortly thereafter, President Ford signed into law the Energy Reorganization Act of 1974 (P.L. 93–438, October 11, 1974), which created an Energy Resources Council ("ERC") charged with functions which, according to President Ford, "are essentially the same as those I had intended to assign to the National Energy Board." The Council, headed by Secretary of the Interior, Rogers Morton, includes the Secretaries of State, Defense, Treasury, Commerce, Transportation, the Attorney General, the heads of various other Federal agencies and other Presidential designees. The FEA Administrator serves as the Executive Secretary to the ERC. The same Act established the Energy Research and Development Administration ("ERDA") to centralize and expand Federal research and development efforts, as well as the Nuclear Regulatory Commission.

Establishment of an adequate and secure supply of petroleum

Probably the most pervasive element of national energy policy during the past 50 years has been the concern for assuring the United States an adequate and secure supply of petroleum. U.S. Government policy-makers have always given this element of energy policy the highest priority, and continue to do so today. Since World War I, the military and economic importance of petroleum has been such that the Federal Government has always been concerned with acquiring and maintaining access to substantial oil reserves. Immediately after World War I and again during World War II fears that the United States was running out of oil impelled Washington to encourage participation by American oil companies in the international competition for control of major sources of petroleum outside of North America (See historical section). American participation in Indonesian exploration after World War I, in Saudi Arabia and Kuwait in the 1930's and 1940's, and in Iran during the 1950's was assisted by the U.S. Government, out of concern for future oil supplies and the desire to prevent this production from being controlled by Britain, France or the Soviet Union.

More recently, Federal policy-makers have repeatedly asserted that assuring adequate supply is the central goal of U.S. energy policy. President Nixon, in a message to Congress on March 9, 1974 declared: "We must, above all else, act to increase our supplies of energy."

Maintenance of an adequate and secure energy supply is the cornerstone of "Project Independence." In the pursuit of such supply security, however, the Project Independence Report observes that the United States need not necessarily seek total self-sufficiency. A significant reduction of imports could provide a sufficient degree of energy independence, particularly if the sources of those imports were unlikely to be interrupted for political reasons.

In an address to the World Energy Conference in Detroit on September 23, 1974 President Ford elaborated on the concept of Project Independence speaking of the "challenge of formulating Project Interdependence," which Ford described as "a comprehensive energy program for the world, to develop our resources not just for the benefit of a few, but of all mankind." The shift in emphasis under the Ford Administration indicated not a retreat from the primary policy objective of assuring an adequate and secure supply of energy, but a deepened appreciation of the fact that it cannot be pursued to the exclusion of all other considerations. This attitude is reflected by active U.S. participation in the International Energy Agency ("IEA").

Even if achieved, U.S. energy self-sufficiency would not solve all of the nation's energy-related problems as long as high oil prices threaten the stability of the world economy. Moreover, this policy embodied the recognition that energy self-sufficiency may not be desirable if it inhibits the flow of international commerce, or raises the price of energy in the U.S. substantially above that in the rest of the world, thereby rendering many U.S. exports less competitive.

Maintenance of national security

National security has long been fundamental to U.S. petroleum policy. Although it is one of those basic, abstract goals which energy policy is designed to serve, national security, when reduced to specifics, has in the past translated into maintaining adequate and secure energy supplies for potential military needs. This was the rationale for establishing Naval Petroleum Reserves in Alaska and California as long ago as 1912, and was one of the grounds for the Mandatory Oil Import Program which existed from 1959 to 1973. National security considerations were also important in the genesis of Project Independence. Historically

then, as an energy policy objective national security has been inseparable from the objective of assuring adequate and secure supplies.

Recently, however, the awareness has grown that national security is a far more complex and abstract objective, which in large part consists of securing the economic well-being of society. As one Federal official has remarked, "Security and economic policy are, of course, the parents of energy policy."

This broader view of the relationship between national security and petroleum policy was evident in hearings concerning strategic petroleum reserves held in mid-1973 before the Senate Committee on Interior and Insular Affairs. The Committee chairman, Senator Henry Jackson, observed that whereas strategic petroleum reserves were formerly of interest only to "a handful of economists, professors and military specialists," they have now become a matter of vital concern to the entire nation. Civilian as well as military requirements for petroleum are currently considered essential to our national security. Accordingly, Senator Jackson proposed a bill to create a petroleum reserve equal to a 90-day supply of imports to meet civilian as well as military needs. Presidential energy messages in 1973 and 1974 reveal a similarly broad view of national security requirements. For instance, on January 23, 1974 the President called on Congress to authorize production from the Elk Hills Naval Petroleum Reserve in order to help achieve energy self-sufficiency.

Maintenance of viable foreign relations

Foreign policy considerations of a political rather than strictly military nature have often affected U.S. petroleum policies. In the early 1950's the U.S. Government was seriously concerned that Soviet influence might become dominant in Iran due to its faltering economy. Attempts to encourage the development of a strong, friendly government in Iran took the form of encouraging American oil companies to participate with British Petroleum in an international consortium to exploit and market Iranian oil reserves in a manner that would provide substantial revenues for the Shahs' government without creating an international oil glut that would disrupt world markets and hurt other producer governments. Since World War II, the maintenance of anti-Communist regimes in the Middle East has been a continuing goal of U.S. foreign policy, and has frequently taken precedence over economic considerations. In fact, aside from the Iranian Consortium, there were elements of this policy objective in the 1950 foreign tax credit decision, and the 1971 Teheran and Tripoli price negotiations.

Today there is a new emphasis on the foreign relations aspect of energy policy. It now includes as an objective the creation or maintenance of international organizations or structures, such as the International Energy Agency, within which the United States and other consuming nations can coordinate their policies regarding temporary and long-term plans for dealing with problems of supply and price of energy. Such a framework will hopefully, from the viewpoint of U.S. policy, allow consuming nations to develop a united front in the face of the demands of producing nations and help create a situation where producing and consuming countries can bargain with each other to mutual advantage.

Efficiency of resource utilization

Efficient resource utilizaton has taken on a new dimension in U.S. energy policy. Only with the onset of actual energy shortages (as distinguished from possible future shortages) was there any significant incentive to adopt a national policy designed in some measure to curb energy consumption or to seek an allocation of the nation's energy supplies consistent with the new price structure of energy. Concern in the past had been largely confined to avoiding waste in oil and gas production by means of state-level prorationing. Even that concern was very limited and soon became more of an instrument for supporting price than for conservation. Prorationing received Federal support in the form of the Connolly Hot Oil Act of 1935, but it was never adopted as a consistent national policy.

Congress declared in the Federal Energy Administration Act of 1974 that the general welfare and common defense now require, among other things, "positive and effective action to conserve scarce energy supplies" and "to insure fair and efficient distribution" of such supplies. The beginnings of a system of end use controls for petroleum and gas products emerged from the allocation authority given to the President under the Emergency Petroleum Allocation Act of 1973. This act authorized and directed the President to deal with the shortages of oil products so as to minimize the "adverse impacts of such shortages or dis-

locations on the American people and the domestic economy." This authority, subsequently delegated to the FEA, was used to impose production quotas for various products on refiners, to order sales to various priority customers, and to specify prices for such products.

Finally, the Project Independence Report envisioned a mandatory energy conservation program which would require new cars to get 20 miles per gallon of gasoline, provide tax credits for improved insulation of new construction, create national lighting and thermal standards, and require all new construction to be heated and cooled by electricity in order to promote the substitution of coal for oil and gas by utilities and large industrial users. It should be noted that the Ford Foundation Energy Policy Project emphasized demand growth restraints in its policy recommendations.

Protection of environmental quality

The protection of environmental quality became a matter of national concern shortly before the "energy crisis," and in fact has inhibited the development of domestic sources of petroleum. Perhaps the most complete general statement of this policy goal is contained in the National Environmental Policy Act of 1969 ("NEPA"). At the heart of this policy as advanced by NEPA was the requirement that an environmental impact statement be a part of "every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment." The Act further required the President to transmit to the Congress an annual "Environmental Quality Report."

In 1970, Congress extensively amended the Clean Air Act in order "to speed up, expand, and intensify the war against air polltuion in the United States with a view to assuring that the air we breathe throughout the Nation is wholesome once again."

The policy reflected in these statutes and orders directly affected petroleum usage, accelerating the conversion of utilities and other satisfactory sources from coal to oil and gas, and increasing gasoline consumption by motor vehicles. More importantly, as a result of litigation, NEPA delayed U.S. offshore drilling and the construction of the Trans-Alaska Pipeline, thus magnifying our dependence on foreign imports. Some adjustments between environmental goals and the basic energy goals must be made if an efficient exploitation of domestic energy resources is to occur. The failure to reduce the uncertainty resulting from an unpredictable environmental policy has materially hampered the development of energy resources, has materially increased—because of uncertainty alone—the cost of energy, and will continue to do so until that policy is stabilized. Clearly a mechanism needs to be established within the Federal Government to resolve conflicts arising from environmental issues. The present system is inadequate.

Encouragement of free and effective competition

Encouragement of competition in industry has been a goal of the U.S. Government, although in international petroleum affairs it has been subordinated at times to other national policy objectives. Antitrust activities of the Federal Government since early in the century have manifested a continuing concern with actual or potential anti-competitive structures or practices within the industry. In fact, antitrust concerns are a major obstacle to constructive consultation among companies, as in the development of the International Energy Program.

In 1973, this policy objective was manifested in Congressional concern over the fate of U.S. independent marketers of petroleum products in a time of scarcity. The major integrated oil companies, it was feared, would soon eliminate or absorb all the independent marketing companies, since the latter did not have access to their own supplies of crude oil.

The FTC in July, 1973, completed a staff report on competition in the industry which concluded that anti-competitive actions of the integrated firms had resulted in a "threat to the continued viability of the independent sector" in the refining and marketing of petroleum in large parts of the country. Within the month, the FTC had issued a complaint against the major integrated firms charging them with a variety of anti-competitive practices. The Senate Committee on Interior and Insular Affairs in late 1973 also held extensive hearings on the state of competition in the petroleum industry.

The Emergency Petroleum Allocation Act of 1973 also demonstrated concern with encouraging and maintaining competition in the petroleum industry in stating as one of its statutory purposes the:

"preservation of an economically sound and competitive petroleum industry; including the priority needs to restore and foster competition in the producing refining, distribution, marketing, and petrochemical sectors of such industry, and to preserve the competitive viability of independent refiners, small refiners, nonbranded independent marketers, and branded independent marketers."

Encouraging private participation in resource development

Development of petroleum resources on public lands, onshore and offshore, has been entirely by private enterprise under leases from the Federal Government. Such leases are sold by the Department of the Interior under the authority provided by the Mineral Leasing Act of 1920 for onshore areas and by the Outer Continental Shelf Lands Act of 1953 for offshore areas.

In 1973 and 1974, the Nixon and Ford Administrations put heavy emphasis on the need to accelerate the offshore leasing program. Encouraging private participation in resource development thus remains a high priority objective of U.S. energy policy.

Maximization of revenue to the Federal Government

Revenue considerations have been important in the operation of the Outer Continental Shelf Lands Act leasing system, and have affected the size and timing of lease sales. The rationale for competitive bidding on lease sales is to endeavor to obtain the fair market value for leases, and in fact the revenues received by the Federal Government have been very large. If plans to sell far more outer continental shelf leases than in the past are pursued vigorously, and if oil prices remain at 1974 levels or higher, maximizing the potential revenue to the Federal Government could become a more important policy goal.

The onshore leasing system, with non-competitive allocation, minimal rentals and a maximum royalty of 12½ percent appears to yield to the Federal Government less than the fair market value of those leases. President Nixon, in an energy address on January 23, 1974, called the Mineral Leasing Act of 1920 "obsolete" and urged Congress to pass a bill creating a single Federal leasing system for all Federal lands. He did not, however, allude specifically to the objective of increasing Federal revenues derived from such leases. Instead, he stressed that the Federal leasing system should "assure that the persons who obtain the leases are those who have an interest in early exploration for oil, gas, and other minerals," a goal obviously consistent with Project Independence.

Conflicts among policy objectives

Any policy objective, if pursued single-mindedly, will conflict with others. Moreover, changing circumstances bring changes in the means appropriate for achieving basic policy objectives. Circumstances relevant to energy policy were changing rapidly in the early 1970's. As a result, conflicts among certain of the above objectives became particularly acute and difficult to resolve within the framework of an overall national energy policy. Two such conflicts stand out: first, that between the goals of adequate and secure supply on the one hand and a reasonable and predictable price on the other; second, that between the objective of an adequate, secure supply at a reasonable price, and the maintenance or improvement of environmental quality.

Supply versus price

As available resources are depleted, the incremental costs of obtaining additional resources will inevitably rise. Moreover, the costs associated with increasing the security of resources must also be computed—either as the cost of an interruption or as the cost of insurance against interruption (stockpiling or the development of domestic sources). In any event, there is an inherent conflict between the desire for a lower price and the need for secure and adequate supplies.

The intense concern over the security of petroleum imports abated somewhat when the 1973–74 Arab oil embargo ended and U.S. policy then centered on cost rather than supply, reflecting fears that high oil prices might damage both the U.S. and world economy. The Ford Administration urged voluntary conservation as a counterweight to high oil prices and in late 1974, there were suggestions that the White House was considering a restoration of some form of import controls, either by volume or total dollar value, in order to limit American payment outflows to oil-producing nations. This would require a reduced supply, and possibly rationing, in order to reduce aggregate national costs for foreign oil. (France in 1974 set such a dollar limit on the total value of oil imports.)

The balance of payments benefits of reductions in consumption must, however, be weighed against the increased unemployment and losses in gross national product which increase dramatically with successive cuts.

Thus, despite the Administration's opposition to rationing and a gasoline tax, it accepted the fact that very large international payments for oil, even for adequate and secure supplies, must be traded-off against other costs. It therefore, has logically placed increasing emphasis on the importance of reducing aggregate demand.

The price controls on crude oil and petroleum products administered by the FEA under the Emergency Petroleum Allocation Act illustrate the same conflict between price and supply. In order to avoid depressing output the price control structure repeatedly has had to be adjusted upward for a variety of products and producers and new administrative measures devised to deal with the now more complex regulatory system. Even with these attempts, in almost all instances price controls both reduce supply somewhat and encourage wasteful consumption.

Supply and price versus the environment

This conflict reflects the fact that protecting or improving the environment generally increases the cost of producing energy and may even increase the demand for it. A national policy commitment to environmental protection developed impetus only shortly before the impacts of the energy shortage began to be felt throughout the economy. By 1973 the requirements for reduction of motor vehicle exhaust emissions, for instance, had increased gasoline consumption by at least an estimated 300,000 barrels per day. President Nixon's message to Congress, January 23, 1974, called for amendments to the Clean Air Act to extend the deadlines for improved emission controls in order to "permit auto manufacturers to concentrate greater attention on improving fuel economy while retaining a fixed target for lower emissions."

The Energy Supply and Environmental Coordination Act of 1974 addresses itself to this conflict. The Act was intended to promote the use of coal as a substitute for oil and natural gas. Section 2 of the Act requires the Federal Energy Administrator to prohibit any powerplant, and allows him to prohibit other major fuel-burning installations, from burning natural gas or petroleum products as its primary energy source. The Administrator is given authority to suspend temporarily fuel or emission limitations on stationary sources, if fuel shortages make it impossible to comply with them or if the Administrator has ordered the source to convert to coal. The Act also delays for two years the motor vehicle exhaust emission standards. Thus, the "coordination" provided for in the Act constitutes a modification of the environmental priority.

The question of tapping shale oil deposits on a major scale also sharply accentuates the conflict of supply and price with the maintenance of enrivonmental quality. The development of shale oil and strip mining coal areas of the West causes serious environmental problems, including water availability, salinity, disposal, dangers to vegetation and wildlife, and air pollution. At the same time they constitute massive secondary energy sources that if developed, even in part, could have a beneficial limiting effect upon the price of domestic and foreign oil.

These and other conflicts sometimes appear to defy resolution through the usual political processes of bargaining and compromise to achieve consensus. Even though many Americans probably would agree as to the elements that constitute the nation's long-term well-being, it is exceedingly difficclt to find a "constituency" for any energy policy aimed at promoting this objective. The enormous task of creating and implementing such policy can only be accomplished through extraordinary leadership and political judgment on the part of Congress and the President.

In the analysis which follows, the maintenance of an adequate supply of petroleum at a reasonable price is the primary objective against which each policy option is analyzed. Some consideration is also given to the impact of these options on many of the other aforementioned objectives.

Advantages and disadvantages of options

The recent history of international petroleum clearly illustrates the need for the U.S. Government to formulate new policies to cope with changed realities. Those new policies must reflect both the new emphasis in our national energy policy and priorities as well as the fundamental changes which have occurred in the international industry and the producing countries.

Cooperation among consuming nations has already resulted in the establishment of the International Energy Agency ("IEA") in Paris. At present, intensive consultations within IEA are registering daily progress in expanding the awareness of the participating governments. Tentative steps towards IEA-industry consultations have already been initiated. Less specific, but potentially even more important, the United States has tentatively agreed to the French proposal for a joint producer-consumer conference during 1975. Future policies selected by the U.S. government will inevitably take account of these important new relationships.

Whatever policy options are selected, there are also certain realities about the international petroleum system which must be reflected in our policies. Until recently the international petroleum market was characterized by a group of loosely coordinated firms facing competitive producer governments. There is considerable evidence that with the exception of Iraq, those governments probably fared better than they would have under free market conditions. Yet compared to other forms of energy international oil was cheap, even with the price supporting practices of the major oil companies.

The establishment of the preeminence of OPEC as a determiner of price in the international petroleum market has radically altered the decision-making criteria for setting price. The highly diffuse and sophisticated incentive structure of the major companies has given them a vested interest in global economic growth and stability as well as the retention of a system which most countries find acceptable. This incentive structure has now been supplanted by the far more narrowly based national interest incentives of the producer countries.

The companies which were once oligopolistic sellers of petroleum and petroleum products are now in the position of competing buyers confronting a cartel. Competition among the companies tends to reinforce the upward tendency in price, particularly so long as OPEC is prepared to continue the curtailment of production.

It is very doubtful that there can be any significant downward market pressure exerted on price by consumer countries at least in the short to medium term (up to several years). The spread between the cost of production, the price floor (perhaps $2 per barrel) toward which competition among producer countries would tend, and current prices ($11 per barrel) is so great that cooperation among the producers is clearly in the interest of all petroleum exporting countries. Producing countries could increase their aggregate revenue somewhat by cutting prices slightly and selling relatively much larger quantities. If many producers did this, however, price would then fall much further. Therefore as long as each producer can be relatively certain that no or very few members of the cartel are "cheating" by shaving the price, each is strongly motivated to follow the rules and be satisfied with a stable share of the market.

When that assurance is lacking, or if significant new production remains outside the cartel, the motivation is just the opposite: then each producer would have to compete in order to preserve its market share. Consumers would, however, in the forseeable future find it far too costly in terms of lost employment and GNP to reduce demand sufficiently to break OPEC unity. Thus, assuming that the cartel remains stable, there would be downward pressure on price only if it appears that a reduction in that price would elicit a more than proportional increase in demand, so that a price reduction would increase aggregate revenues for those producers who could sufficiently expand production. We have not yet reached that point.

For the forseeable future, long-term considerations have little chance of influencing OPEC price decisions. Almost all relevant consideration which would go into a long-term calculation—the rate of successful exploration, the export policies of new producers, the rate of development of alternative sources of energy, the impact of conservation in consumer countries—are speculative. It is, therefore, extremely unlikely that producers would lower prices on the basis of such a calculation when revenues at current levels, assuming they can be invested, are so great as to swamp any long-term anticipations.

Clearly, the current status is such that the companies in the international petroleum industry are price takers so long as they continue to compete with one another for the product of a cartel—OPEC. There is no cause for optimism that OPEC will break up. The fact that producer governments have become sellers of oil strongly suggests that governments of crude purchasers must influence the transaction to protect the interests of the consumer. At the same time the companies fill vital roles which government is unequipped to supplant.

U.S. policy, in addition to meeting national objectives and accommodating new international realities, must also concern itself with preserving or salvaging the strengths of the existing structure. At a minimum, the unique integrated logistical, technological and managerial system of the U.S. oil companies constitute an important national asset. Because it is a functioning system, it must be approached as such, and not altered piecemeal. Moreover, recent events clearly indicate that we can no longer assume that, come what may, the companies can take care of themselves.

In the context of these observations, it is possible to evaluate the range of options available to the U.S. Government in its relationship with the industry as it pursues certain national objectives.

The options selected for analysis are:

A. National options

1. Removal or modification of Federally created incentives and disincentives to international petroleum production;
2. Regulation of oil companies as public utilities;
3. Establishment of a national system to limit petroleum imports;
4. Regulation of all significant international supply arrangements;
5. Creation of a petroleum corporation, fully or partially owned by the Federal Government, to engage in international activities;

B. Bilateral/multilateral options

6. Coordination of international supply arrangements through an industry-wide association of consumer country companies;
7. Bilateral arrangements between the United States and producer governments;
8. Establishment of an international organization to coordinate national petroleum policy with other importing countries; and
9. Establishment of multilateral negotiations between producing and consuming countries.

V. POLICY OPTIONS

A. National options

1. Removal or modification of federally created incentives and disincentives to international petroleum production.

Although the U.S. Government is not directly engaged in the production, refining and marketing of petroleum, Federally created incentives and disincentives have historically played an important role in the development of the American oil industry. The first option analyzed by this Study is the modification of the existing system by removing or altering those incentives and disincentives.

Incentives.—The *foreign tax credit* provisions of the Internal Revenue Code allow a taxpayer to elect to credit income taxes paid to foreign governments by U.S. corporations against U.S. income tax liabilities on foreign income. Such credits are limited to the amount of tax that would be payable if the foreign country taxed at U.S. rates. The taxpayer may elect to compute that limit either on a country by country basis or by aggregating all of his foreign income and foreign income taxes paid. The important policy issue is not the principle of the foreign tax credit, which is generally accepted in international taxation, but the definition of an income tax as distinguished from royalty payments, excise taxes and costs of purchased oil. The latter would normally be treated as deductible business expenses.

The foreign tax credit has, in general, resulted in sufficient credits for U.S. oil companies that they have not paid any taxes on profits from foreign oil production. Part of these credits have sometimes also been used to eliminate U.S. tax liabilities of the companies on non-oil producing foreign operations, such as shipping, located in countries having income tax rates lower than U.S. rates. Such opportunities were reduced by the Tax Reform Act of 1969, which included a provision to the effect that foreign tax credits attributable to the amount of the percentage depletion allowance on mineral income from a foreign country cannot reduce the U.S. tax payable on other foreign income.

Repeal of the foreign tax credit would subject U.S. corporations to double taxation on foreign income and place them at a great disadvantage relative to foreign competitors. In addition, for companies using the overall limitation, an elimination of the foreign tax credit could severely affect the profitability of any shipping operations, since excess foreign tax credits are now used to "shelter" the income derived from these operations. If, however, the tax credit were restricted

to payments that are in substance income taxes and not royalties or a cost of purchasing oil, it would conform to its intended function of preventing double taxation. Taxes would be due to the U.S. Government from profitable operations wherever the effective income tax rates were lower than the U.S. rates, either on a per country or overall basis. Where the rates are the same or higher than in the U.S., there would be no U.S. income tax liability. The present system's broad interpretation of "income taxes" is a factor which has encouraged producer countries with the active support of the U.S. companies, and indeed the U.S. Government, to impose higher taxes in lieu of higher royalties, which otherwise would merely be deductible business expenses.

If the Congress takes no action, the issue may become moot in many cases because oil producing companies owned by U.S. firms abroad are subject to increasing nationalization. U.S. companies are rapidly becoming mere service companies and purchasers of products from producer governments. It is thus becoming more apparent that the price paid for such oil is a deductible purchase cost and not a creditable income tax. On the other hand, very difficult tax issues may arise for the companies and for the U.S. Government if producer countries reduce the companies essentially to suppliers of services and then both pay and tax such service income on a per barrel basis. Evaluating the extent to which such taxes would constitute income taxes would probably require the I.R.S. in effect to decide what is a "reasonable" per barrel margin for the services rendered. There is, therefore, an economic incentive for producer countries to retain a semblance of the concession system because of the obvious advantage that the ambiguity between the purchase price and tax has given to both the countries and the companies.

The *percentage depletion allowance* allows 22% of the gross-well-head value of oil and gas production from a producing property, whether domestic or foreign, to be exempt from federal income tax, up to a limit of 50% of the net income from that property. The depletion rates applicable to other energy minerals, excepting uranium, are lower, thus favoring petroleum investment relative to other energy sources and non-energy investments.

Domestically, the percentage depletion allowance has increased the after-tax profitability of oil production and thereby the output of U.S. companies. By causing output to be higher than otherwise and more importantly by being an indirect subsidy to the producer and necessarily, the consumer, the depletion allowance has at times resulted in lower oil prices. Thus, this tax incentive has encouraged the consumption of petroleum relative to other energy sources and non-energy consumer items. Estimates indicate that the price reduction due to the depletion allowance at 22% has equalled about 9% of the wellhead value of oil.

Historically this and other express tax incentives created overcapacity in production which in turn created the need to support prices by prorationing. After the U.S. became a net importer that productive capacity was beneficial, in that dependence on imports would have grown more rapidly in the absence of spare capacity.

The percentage depletion allowance has had relatively limited impact on foreign exploration and development, however, because the size of the foreign tax credit has rendered the depletion allowance superfluous in many cases. It seems likely in any case that the depletion allowance for foreign investments has been reduced to relative insignificance as an incentive by the recent four-fold increase in world oil prices. Under current price and cost conditions both foreign and domestic oil exploration and new production are very attractive and would probably continue to be so regardless of the depletion allowance.

Recent changes in oil price, cost conditions, royalty terms, taxation, and nationalization have already caused a return to the U.S. of oil company exploration activity. Surveys done in connection with the Study show a clear shift in exploration emphasis to the U.S. from all other areas of the world, except the Far East which is still a small part of the total. Abolishing the foreign percentage depletion allowance would probably not significantly affect expected profitability or accellerate this trend between domestic and foreign exploration. In fact, abolishing foreign percentage depletion could even improve a company's tax position in some circumstances, if it meant that the allowable foreign tax credit were no longer reduced by the amount attributable to foreign percentage depletion. Domestically, percentage depletion has in the past encouraged more independents to be in the oil business and has caused the drilling of some wells that would not otherwise be drilled, some marginal and some not. The domestic implications

of the percentage depletion allowance, however, and not within the scope of this study.

The expense of *intangible drilling and development costs* ("IDC") provision provides for an election of immediate income tax deductibility of intangible costs, creating what, with percentage depletion, is arguably a potential double deduction for productive wells.

The controversial issue of IDC relates to productive, not dry, wells. There is general agreement that dry holes should be expensed. If capitalization and depreciation are required for productive wells, very likely the result in most cases will be that the companies will be taxed on the full amount of such costs, since under existing law a taxpayer may not simultaneously take advantage of the percentage depletion allowance and also depreciate as capital investment his amortized leasehold and intangible drilling costs in the same property. High tax bracket investors, a significant but not essential source of drilling funds, would be less attracted to such investments, but the loss of the IDC tax benefit in this regard would again be less important than the recent oil price hikes which have increased profit expectations. A study in 1973 using 1971 industry data estimated that abolition of this tax advantage would have reduced domestic oil production by more than six percent if prices rose to reflect the increased after-tax cost of drilling, or by more than 16 percent if prices were kept constant.

Foreign drilling investments receive IDC benefits. In a number of cases, large foreign tax credits have rendered the IDC inoperative for foreign exploration. Because of high foreign tax rates, removal of IDC treatment for productive foreign wells would have negligible effects under present conditions for companies using the overall limitation. For companies using the per country limitation, however, the expensing of foreign IDC often will have the effect of reducing U.S. source taxable income by that amount. In such situations, the provision is a significant tax incentive to foreign as well as domestic exploration and drilling.

In recent years, about 90% of the foreign production of American oil companies has been sold in foreign markets. To the extent that American tax benefits have lowered the price of oil delivered to foreign countries, the argument can be made that the U.S. taxpayer has been subsidizing foreign consumption or foreign tax collections. On the other hand, the absence of such benefits might have made U.S. companies less competitive abroad and would have to some extent discouraged foreign investments.

The extent to which companies operating abroad have tax advantages which they would not have if they were conducting the same operations in the United States is a matter of considerable controversy. There is first of all the issue, very important in foreign oil operations, of the distinction between an income tax and a royalty payment. A royalty payment to a U.S. landowner is a deductible expense, whereas a substantially equivalent payment to a foreign govenment can be characterized as an income tax and becomes a credit. The Treasury Department in 1974 proposed a partial reduction of the foreign tax credit allowable for petroleum income, with the amount of the reduction being treated as a deductible expense.

Even where a true foreign income tax is levied, however, it appears anomalous that it is a credit but U.S. state and local income taxes are not. Even more striking, if an income tax were levied on a U.S. company by, for example, the Canadian Province of Alberta it would be a credit against U.S. taxes, but the same tax if levied by the State of Texas would be only a deductible expense. This distinction can, of course, be defended by pointing out that allowing U.S. state and local income taxes as a credit would give too great an incentive to states and cities to increase their taxes at Federal expense. Nevertheless, tax neutrality as between foreign and domestic investment is sacrificed in this respect.

Finally, there is the issue of deferral. Earnings of foreign subsidiaries of U.S. companies operating in the country of their incorporation are not attributed to the U.S. parent unless and until such earnings are distributed. In practice, this means that if such earnings are reinvested in the country of their origin, whether in the same enterprise, another subsidiary of the parent, or an unrelated business, U.S. taxes on such earnings are deferred indefinitely. Thus, if tax rates in the foreign country are lower than U.S. rates, there is an incentive for U.S. companies to invest abroad through foreign subsidiaries rather than in the U.S. For instance, a U.S. company might form a foreign subsidiary to do refining or

to perform exploratory and drilling services in a low-tax country. By investing the earnings of the subsidiary in the country of its incorporation, the parent may continue to increase its subsidiary's earning power with money that would otherwise have been taxed by the U.S. Government if the same operations had been conducted in the United States. Defenders of deferral correctly point out that it is consistent with the principle of not taxing shareholders on undistributed corporate earnings. On the other hand, U.S. tax law departs from the principle to impute a "constructive dividend" in various circumstances where undistributed earnings are accumulated by a corporation to avoid taxes on controlling shareholders.

The net effect of the foreign tax credit, percentage depletion, the IDC allowance and other lesser U.S. tax incentives in international petroleum affairs clearly has been to encourage U.S. companies to develop foreign supply and marketing arrangements. The United States Government has probably lost some tax revenues thereby, but has benefited to the extent that foreign reserves have been discovered and developed, supplying U.S. needs as well as those of the free world generally.

In assessing any of these incentives a basic issue is whether the global supply "web" established by U.S. companies is worth maintaining and, if so, whether the removal or modification of any particular incentive would have a substantial impact upon the system.

Judged in this light it would appear that the large comanies would have a substantial interest in developing foreign supplies with or without the IDC allowance for productive wells, based upon the assumptions that today's higher prices or something relatively close to them will continue, and that the margins of the companies will not be squeezed too drastically by the host countries. On the other hand, it is clear that hundreds of billions of dollars will be needed for exploration and development within the very near future if we are to supply the energy needs of the 1980's and in some cases the elimination of the IDC allowance for foreign productive wells could have a negative impact, particularly if the application of the foreign tax credit to oil income is restricted along the lines of the 1974 Treasury proposal. A number of countries, including the United Kingdom and the Netherlands, permit companies to expense drilling costs on essentially the same basis as the U.S. now does. If the allowance were removed for foreign operations of U.S. companies they could be at a competitive disadvantage with the companies of other countries.

There is evidence that parent countries of non-U.S. firms structured the taxation of those firms to match the tax advantages of the U.S. firms. It is possible that if these U.S. tax advantages were removed, the parent countries of non-U.S. firms would follow suit; it is also possible that they would not in order to assist their companies.

There have been suggestions in Congress that tax provisions applicable to companies undertaking foreign oil operations might be altered or manipulated in order to discourage foreign operations altogether or to redirect them to relatively reliable countries. For instance, use of the foreign tax credit might be denied to operations in countries which have imposed an embargo on the United States. Or, Congress might give the President or his delegate the authority to suspend the application of certain international tax provisions either selectively or across the board, in light of his perception of the national interest. Such measures would have grave shortcomings, however. First, the only such tax benefit important enough to make any likely substantial difference in the flow of U.S. international investment is the foreign tax credit. Second, if such a change is applicable to existing investments as well as new investments, it would subject affected overseas operations to drastically increased taxes where disinvestment may be impracticable or may take a long period of time. If, however, distinctions are made between new and old investment, they will be very hard to defend as equitable. Third, to the extent that such changes inject an element of uncertainty in the tax treatment of foreign investments, they will make tax planning far more difficult and may thereby discourage investment that should be encouraged. Finally, while the disadvantages to existing taxpayers would be immediate and often severe, the benefits from such measures would be very long-range and uncertain.

In sum, the income tax law is a poor instrument for achieving such policy objectives. There are far more direct and effective means available. These include the President's existing authority under Federal banking laws to impose foreign

direct investment controls, an outright legislative ban on investments in certain countries, or direct subsidies to foreign or domestic investments deemed in the national interest.

Disincentives.—Price controls were introduced on August 1, 1971 and have been retained on both crude oil and products. The firms in the industry, both integrated and independent, have almost universally opposed these controls. Both supply and demand are affected. The Federal Government has clearly recognized that if controlled prices are too low, the incentive to explore for oil is reduced. Accordingly, regulations have been developed which permit the marketing of new oil and certain exempt sources at market prices.

To the extent that price controls, allocations and entitlements limit domestic production, they result in greater balance of payments expenditures and contribute to the sustaining of international demand and the price levels associated with it.

There are a number of indications that an uncontrolled price would better serve the public interest. Since the embargo, Germany, the only country in Europe which does not control the price of petroleum, has benefited from the lowest prices. The informal disclosure procedures employed by the Germans may well have provided a greater deterrent to the importation of higher cost oil than the more comprehensive regulatory procedures in other European countries, which may have inadvertently provided the mechanism for justifying higher prices.

Within the United States, approximately 63% of domestic production is controlled as "old oil" at a price of $5.25 per barrel. Industry respondents claim that secondary and tertiary recovery operations are discouraged by these controls, despite the fact that increased production from old wells is not subject to controls. Industry respondents further argue that the accrual of funds for exploration, development and research is constrained by such controls. To the extent that domestic oil production is constrained in this manner, imports are increased and contribute thereby to the balance of payments problem. Of perhaps the greatest relevance is the fact that controlled price require the development of additional allocation controls and procedures. To the extent that they are effective, they introduce certain inefficiencies and dislocations into the total system of supply and raise costs to the consumer. Thus, to justify such a system of controls, the other objectives achieved must outweigh these costs. Controls also have a negative impact upon future investments. The uncertainty introduced into business capital budgeting leads to delays in investments and additional costs which must be assigned to those investments once made. This is particularly true in the case of such facilities as refineries.

An elimination of the "old" and "new" oil distinctions would result in higher prices (4–6¢ per gallon for gasoline) and some resultant conservation. It would probably intensify the massive move to greater U.S. exploration that is being made by the larger U.S. companies.

The regulation of natural gas by the Federal Power Commission ("FPC") also presents problems. Because of the very large differential between regulated interstate and unregulated intrastate sales of natural gas, companies are not encouraged to explore for gas that will go into interstate sales and this in turn has led them to seek foreign sources for liquified natural gas ("LNG") in places such as Indonesia and Algeria and at prices that are effectively much in excess of either regulated or unregulated U.S. gas.

Over the short term the United States may be able to obtain as much drilling for natural gas, even that which would go into interstate sales, as it could through deregulation because of the hope or expectation that natural gas will eventually be deregulated. For the medium or long-term picture, however, it seems clear that deregulation of natural gas, at least "new" natural gas, will be necessary if domestic opportunities in this area are to be maximized. Deregulation of natural gas will immediately cause the cost of deregulated supplies to rise to that in the market for unregulated, and such costs will be passed along to the consumer in terms of higher prices. This would be particularly the case if all natural gas were to be deregulated, which suggests that the concept of deregulating "new" gas and phasing "old" natural gas into deregulation over a period of time has considerable merit.

The FPC also has an impact upon foreign imports due to its authority over facilities constructed in connection with LNG projects. The concept of regulating imports is appropriate and will be examined in detail for a number of types of arrangements later in the Summary. It is quite questionable, however, whether

the FPC as presently constituted is the agency which should be concerned with energy imports and whether the procedures followed in the LNG cases are those which should be applicable. The record to date seems clear that regulation of LNG imports by the FPC has been counterproductive, reducing supplies and increasing costs.

Net effects of incentives and disincentives.—Only the principal incentives and disincentives have been discussed. Any appraisal of their net effect is, of course, highly subjective in view of their complexity and the many economic and political judgments involved.

The high current price of "new" oil is the dominant element changing the recent sum of incentives in favor of additional investment in U.S. oil production. It is driven in large part by the artificial manipulation of the international oil market by OPEC but even without OPEC market forces would also be at work which would sustain a substantial increase over "traditional" prices. In this respect petroleum is little different from other non-renewable resources.

Foreign oil production is subject to new and extremely high degrees of risk and uncertainty. Accordingly oil investments by U.S. and other companies have been shifting back to the United States.

The system of price, allocation and entitlement controls has affected the allocation of resources in the oil industry just as have the various tax benefits and price support schemes. The benefits of controls are primarily in the area of income distribution. Whether they are worth the cost is a decision to be made in the political process.

The more important issue, one beyond the scope of this inquiry, is that of the longer term price level or standards which should be established for petroleum. Resolution of this issue would have a far more stabilizing effect on industry investment decisions than the decisions on incentive and controls.

The tax incentives in foreign operations have declined in importance, however, because of recent international developments. The producer government trend toward 100% participation in the petroleum company subsidiaries operating within their borders has eroded the traditional concessionary pattern. If OPEC members eventually set a single price for oil and denominate it exclusively as a price (rather than as royalty and income tax), then the companies will have no choice but to treat the costs of crude as business expenses. In that event, tax considerations will cease being a significant incentive to foreign oil operations. The producer governments may, however, plan their new price and tax structures to take maximum possible advantage of U.S. tax laws and interpretations thereof. Under such circumstances, elimination of tax advantages to U.S. firms might simply give a competitive advantage to foreign oil companies. Thus, U.S. tax incentives and disincentives are certain to remain an important subject, as they have been in the past.

2. *Regulation of oil companies as public utilities*

If it were decided to regulate the prices of crude and products within the United States on the basis of an allowable rate base and rate of return thereon, it is very possible, perhaps even likely, that supplies of petroleum products would be disrupted, and in the aggregate reduced, because the prices so fixed would be essentially arbitrary. Attempts to value a "rate base," fix an "appropriate" rate of return thereon and measure the "cost of service" for the industry raise both theoretical and practical difficulties that would be resolved only by political decisions. Thus, such efforts would tend to increase U.S. reliance upon foreign sources of petroleum.

Regulating import prices.—It can be argued that even if the domestic oil industry is competitive, the U.S. Government ought still to regulate the price and supply of oil products to compensate for the impact of the essentially noncompetitive international oil market on our domestic market. It is generally agreed that, whatever the degree of competition within the domestic petroleum market, the international market is dominated by the OPEC cartel which has caused foreign crude prices to be substantially higher than prices which would have resulted from free market conditions. These world prices have driven up the market price of domestically produced unregulated crude because that market price tends to rise to the level of the administered price of foreign crude. If we do not influence that price, or otherwise adjust domestic prices, the OPEC governments will dictate the price of crude oil produced in the United States, and thereby the amount of economic rent paid to domestic oil producers.

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Regulators might deal with this problem in two ways. First, the price of domestic crude can be controlled, the foreign crude left uncontrolled, and the supply of low-priced domestic and high-priced foreign crude "equitably" rationed among the consuming public, so that ideally the consumer pays a price reflecting a "mix" of the two price levels. For this system to function, companies which have discovered and developed lower cost domestic crude oil to meet their refining needs, would be forced to relinquish a portion of this low-cost crude to their less fortunate competitors in order to achieve a "mix" having the desired average price. The FEA system of crude oil "entitlements" is designed to do this. A system that penalizes firms that in the past have invested in exploration, and rewards those who have not, however, will not lead to stable economic growth within the industry.

Second, imported as well as domestic crude can be subject to price ceilings and supply requirements. If a price ceiling is set below prevailing world prices, the outcome is indeterminate. Producers might refuse to sell to the companies supplying the United States at a price below the ceiling. Then, if producers maintained a unified position, the United States would, in effect, be imposing an embargo on itself. If producer unity failed, then at least some oil would be delivered to the United States. In either event, particularly in the first, the demand for domestic crude would be very strong and great difficulty would be experienced in maintaining price ceilings on crude. Government allocation of crude among buyers would be a necessity. Further, downstream price control and rationing would also be necessary, involving heavy administrative and enforcement costs.

The problem of diversion.—Any price control system which attempts to maintain a domestic price level below the world price of crude oil is immediately confronted with the diversion problem. Foreign oil would be diverted to more profitable markets, and some U.S. production would be exported if the delivered price to foreign markets were significantly higher than the domestic price. It is, of course, far easier for regulatory authorities to ban exports of American-source crude oil products than it is to prevent U.S. oil companies from marketing foreign source crude and refined products in foreign countries where potential profits may be greater than in the United States.

To assure that there are no diversions, each company might be required to deliver a certain percentage of its output of various products to certain designated customers. Failure to meet contract supply requirements could subject a company to civil liability, fines, or in the extreme case loss of the right to do interstate business in one or more lines of commerce within the United States. In the alternative the Federal Government could simply impose mandatory import quotas on each company by reference to some base period. From the companies' point of view, such a system would be somewhat more palatable if the prospective profits to be gained from some segments of the U.S. market for oil products would at least partially offset the opportunity costs of marketing certain products in this country rather than abroad. However, a large quantity of oil in international markets is handled by traders who have neither foreign nor domestic assets of significance. The Federal authorities would, therefore, have difficulty in compelling such traders to comply with mandatory import quotas.

Several difficulties would arise under such a system. In the first place, supply requirements would, as a practical matter, have to be revised in the event of a world shortage of petroleum. It would make no sense to attempt to compel the companies to make deliveries when it is impossible for them to do so. But this implies that the regulatory authority would have to maintain substantial national and international monitoring capability in order to evaluate company claims that conditions beyond their control prevented them from fulfilling their supply obligations. If such capability does not exist—and the experience of the shortages of 1973–74 indicated that it did not exist at that time—it would have to be created. Second, this procedure would not necessarily force companies to enter into contracts with new producers, or renew contracts to replace those which expire.

Third, oil companies without substantial domestic production could be forced into a loss position if they were required to pay the world price for oil, plus shipping charges to the U.S. markets, and then sell in U.S. markets below these costs.

Fourth, while price can be controlled, private firms cannot be forced to make new investments in an industry that is made unprofitable by government controls. This creates long-run supply problems.

Fifth, there may be adverse reactions from governments of other importing countries to any requirement by U.S. regulatory authorities that U.S. companies give the United States market first priority on their available crude or other products. Moreover, in the case of a substantial temporary shortage, such regulations would have to be suspended in light of the oil-sharing obligations on the U.S. under the international Energy Agreement. Such regulations run a substantial risk of encouraging similar "go-it-alone" measures by other importing countries and would undoubtedly have an adverse impact upon the foreign markets of U.S. companies. Such regulations, moreover, would constitute a substantial reversal of U.S. foreign economic and energy policy.

Market role of the U.S. companies.—Where the high prices of imported crude are due primarily to the actions of the producer country governments, regulating the price of imported crude is far less likely to have the desired effect than where such prices are due primarily to the actions of the oil companies. If the price ceilings in this country do not equal or exceed the prices paid by the companies to producer governments plus other costs, the companies will eventually stop importing crude.

Few would disagree that whatever the market power of the international companies in the past, it has been and continues to be eroded by the aggressive posture of the producer governments. Those governments individually or through OPEC are eliminating equity oil interests, creating larger buy-back and auction markets for governmentally owned crude, restricting output to maintain buy-back and auction prices, raising producer country taxes and working toward a single price for crude that will isolate and limit the companies' margin of profit. In the aggregate such policies are reducing the international companies to the status of suppliers of technology and managerial skills within the producing countries, and forcing them to compete more intensely with independents and governmentally owned companies in international wholesaling, refining and marketing operations. Thus it is now easier than before for regulation to create a situation in which it is no longer profitable for the companies to do business on the terms set by the regulatory authority.

The experience in France illustrates the problems of maintaining a price ceiling for imported oil products in the face of high prices fixed by the producing countries. In early 1974, France's CFP estimated that the average cost of Persian Gulf crude to the companies was 85 percent of posted price. But the sales of this crude in France brought only an average of 70–75 percent of posted price. Thus, in effect the importing companies were required to subsidize consumption. In the summer of 1974 the companies were losing 70–80 francs per ton of refined oil. Consequently, the companies warned they would soon cease importing crude into France. The French Government countered with promises of future retroactive price increases which would allow the companies to recoup at least part of their losses. Similarly, in 1974 when ceiling prices in Belgium for petroleum products failed to rise enough to meet the increased costs of crude, companies ceased imports into that country.

If the United States attempts to impose a price ceiling with mandatory delivery quotas under circumstances where the producer countries are keeping crude prices near that ceiling, the delivery quotas will predictably become unenforceable, except by very drastic means, and the ultimate effect will be a boycott of foreign crude unintentionally enforced by the U.S. Government.

3. *Establishment of a national system to limit petroleum imports*

In addition to the concept of regulating import prices, a direct way of attacking the problem of large aggregate payments for foreign oil is to impose an absolute limit on imports of crude and/or refined products. Such a limitation may take the form of a ceiling on the quantity of imports or the aggregate payments for imports.

Neither ceiling will directly prevent oil exporters from raising the unit price and further reducing production to take the slack out of the market. If unit prices rise, an importing country with a quantity ceiling will spend more for imported oil than had been planned, whereas an importing country with an aggregate payments ceiling will obtain less imports than had been planned. The choice between the two depends upon which is judged to be more detrimental: the impact on balance of payments of a higher oil bill or the impact on the economy of a larger quantitative shortfall. In either case, the importing country's immediate objective is to force a limitation or reduction in its foreign

payments at current price levels, and its longer term objective is to exert downward pressure on price by a limitation or reduction in aggregate demand. The price and quantity limitations can, of course, be combined by denominating a range of acceptable unit values or simply by the use of domestic price controls.

Allocation.—In any event, import limitation systems first raise the problem of allocation of limited import opportunities among importers of foreign petroleum. There are two basic approaches to such allocations:

1. Allocation solely by reference to present market shares. This would essentially preserve the present proportionate market shares of oil producers by allowing them to import quantities or values proportional to what they imported during some selected base period.
2. Allocation solely by auction, that is, by selling the right to import given quantities or values of oil.

Allocation according to present market shares would probably evoke the least opposition from the oil industry, since its impact on any given company is known in advance for any given import ceiling and since present importers may be expected to be more concerned about their present market shares than prospective importers about their potential ones. Moreover, the market shares of present small importers would be protected. Also, it is arguable that the risk of disruption to normal channels of supply and the consequent aggravation of the effects of a shortage would be minimized if proportionate existing import market shares were preserved. Federal Energy Administration allocations have generally followed the concept of proportionate historical market shares which is probably the least controversial of those which could be devised. The system, however, presents potential newcomers to the market with a serious handicap.

The advantages of an auction method are quite different. First, it would allow the market to decide which import terms are the most economical.

Second, the auction method offers the possibility of weakening to some extent the connection between certain oil exporting nations and their present share of the U.S. market. No producing country would be guaranteed a secure share of the American market through the integrated structure of the company buying its crude at the wellhead, since that share could be bid away by other would-be importers. This would enhance whatever tendency there may be toward price competition among producer countries. At the same time, companies might well feel less secure with this system, fearing both the loss of rights to import and possible retaliatory moves by exporting countries.

A variety of auction plans can be designed, but a system of secret, sealed bidding would probably be most likely to induce producing governments to eventually compete for larger shares of the U.S. market. The U.S. Government could offer import tickets to the bidder who offered the most oil for a fixed dollar amount or who offered to pay the highest fee for the right to import a fixed quantity of oil.

Initially, the bidders would likely be the private oil companies, but eventually producer governments or their oil companies, attempting to market oil in the United States directly, might bid to avoid being forced either to buy import tickets from other holders or lose their access to the U.S. market. Proponents of the auction scheme believe that competition among the producer governments might eventually lower world prices. In the short-term, however, it is probable that those governments would either boycott the auction or would advance identical bids.

Once the quantities of petroleum to be imported had been determined, the U.S. Government would have to decide on the proper method of distributing these supplies among potential domestic customers. This could be done either by increasing the price paid by the consumer (but not allowing the increase to accrue to the foreign oil producer) or by the imposition of rationing at some point in the distribution chain.

Tariff.—A system of import limitations could be effectively used by the U.S. Government not only to increase the potential for competition among oil producing nations, but also to provide so-called "downside risk" guarantees to encourage long-term domestic energy investments. Under such a program, Federal authorities would guarantee a domestic price floor for the next 10–20 years, pledging use of tariffs or quota controls to protect U.S. energy prices if world prices fall. Oil companies would probably feel most secure with a tariff designed specifically to maintain a given price floor for all imported oil.

The existing tariff (import fee) is a minor incentive to domestic production of crude oil and refining. A tariff causes domestic prices to be higher than foreign

prices by the amount of the tariff whenever imports are necessary to meet part of domestic demand, assuming that there is no interference in the market mechanism. At the present time there is an interference in the market by governmental regulations administered by FEA. Where foreign prices are lower than domestic, the tariff can simply close the gap. Where the two prices are initially equal, the tariff will cause domestic prices to rise.

One possible means of lowering U.S. oil consumption and dependence would be to impose a substantial tariff on crude and products. Under 1974 conditions the effects would include a substantial stimulation of domestic exploration and production. On the other hand, profits are presently high and exploration is typically constrained by equipment shortages, not lack of incentive.

Another effect of a tariff would be that product prices would be increased, leading to the lower consumption of petroleum. This has favorable balance of payments effects and environmental benefits, similar in most respects to a tax on gasoline or crude. To fully evaluate their impact, these benefits must however be weighed against the losses in GNP and employment. Such costs rise very rapidly and could swamp the anticipated benefits of two vigorous a conservation effort.

The costs of imports do not include the cost to the nation as a whole of dependency on foreign sources because oil from secure sources brings no market premium. By levying a tariff equal to the cost of an oil reserve storage system, imports can be used to pay the cost of the storage system. This is only one of several means by which security stocks could be financed.

Thus, import tariffs could reduce demand for imports, increase domestic production, and finance a reserve storage system. Care must be taken to account for their GNP and employment costs, however.

4. Regulation of all significant foreign supply arrangements

The option of increasing U.S. Government regulation of foreign supply arrangements stems from a recognition that the U.S. Government has exercised virtually no control, except for the former import quota system, over the purchase of foreign petroleum by U.S. companies, even though that commodity is America's' largest and most essential import and the economic consequences of its price are of vital concern to the national economy. Basically two types of regulation have been suggested:

1. The review of foreign supply arrangements through greater disclosure; and
2. The control of foreign supply arrangements through a power to review and approve contracts or negotiating terms.

At the outset the question arises as to the scope of "foreign supply arrangements." It seems clear that at the very least major producer country supply or "upstream" arrangements would be included in light of their direct impact upon a number of national policy objectives. A case can also be made that domestic investments by foreign governments or corporations owned by them in U.S. marketing or other "downstream" operations should also be included. An example of how this form of arrangement could impact upon domestic supply and establish a pattern for other arrangements is the recently announced proposal that the National Iranian Oil Company acquire a fifty percent interest in a large number of the Shell Oil Company's marketing outlets in the Northeastern United States in consideration for a long-term purchase arrangement for petroleum products that would be refined in Iran under a joint venture. Review might also be extended to oil companies that are partially owned by governments, such as British Petroleum (formerly 49% and now 70.5% British Government owned since the takeover of Burmah Oil Co.) and CFP (35% French Government-owned), particularly where as with CFP their operations are conducted with the express intent of effectuating governmental petroleum policy. The key issue here may be whether such companies are subject to influence by the governments by which they are partially owned in a manner that could be inconsistent with U.S. public interests. At a minimum, the same questions must be asked about foreign government interests in commercial ventures as are asked about U.S. Government participation. The standards applied to the two should be consistent.

National security and foreign policy objectives might make it appropriate to extend the scope of regulation to significant foreign "downstream" investments by U.S. companies in producer countries. Investments such as refineries or tankers could form a strategic link in the logistical supply web and render consumer countries more vulnerable to interruption than the existing system.

In any case administrative considerations dictate that regulation should be limited to "major" transactions, appropriately defined, or investments of sufficient magnitude by foreign governments.

Disclosure.—The requirement of complete disclosure of foreign supply arrangements is consistent with the recent trend in consuming nations to develop "greater transparency" in the petroleum industry. This has resulted in broad disclosure requirements in the Federal Energy Administration Act and the transparency provisions of the recently created International Energy Program ("IEP"). The European Economic Community ("EEC") has shown an interest in a similar system. Under the IEP Agreement the participating governments in effect agree to require the disclosure of the terms of arrangements for "access to major sources of crude oil." In fact, two industry committees, headed by BP and Exxon, are currently working with the IEA to develop a broader data base not only to facilitate emergency sharing arrangements, but also to serve as a reference for broader policy issues. None of these developments, however, has yet provided a system to establish the broad informational base that will be required for the Federal Government to comprehensively assess the impact of a particular supply arrangement upon U.S. interests.

To implement such a system of disclosure, whether or not in conjunction with a power of review and approval, petroleum companies operating within the jurisdiction of the United States could be required to file an abstract for all appropriate arrangements setting forth essential data such as the parties, term, price, volume and conditions for interruption. The reviewing agency could have the authority to request further information or documentation required to assess the impact upon identified policy objectives.

It might also be desirable, particularly if there were no power of review and approval, to require that the abstract be filed not less than a stated, but relatively short, period of time before the effective date of the proposed transaction. The reviewing agency and other relevant agencies of the United States Government would then have an opportunity to "jawbone" with the company if an adverse effect were anticipated. Fears that such a requirement would retard negotiations with producers could be ameliorated by a summary type of procedure under which required disclosures regarding the scope of proposed negotiations could be filed before negotiations were seriously undertaken. This could constitute little more than a "flight plan" filing and should not prove to be a major disruption.

Further transparency would result from requiring complete disclosure of all documents relating to the negotiations. This could not only include the contracts themselves but also all prior drafts, memoranda and other related documents. This requirement would be founded on the belief that the government cannot determine whether the national interest is being protected unless it is fully acquainted with all the details of the negotiation. A disclosure requirement of this type would essentially be a "fishing expedition" to determine what factors, apart from the level of price, are of concern to petroleum companies in their negotiations with producer governments and to what extent these factors are inconsistent with U.S. national policy. While indiscriminate use of this requirement could be burdensome to the industry, if used with discretion it might provide valuable insight into foreign supply arrangements and establish a very useful informational base.

Although disclosure requirements might uncover valuable data, they raise problems. First, the quantity of documents disclosed could be very large, depending on the scope of disclosure required. Production of all of these documents would not only constitute a burden to the companies but would require substantial administrative machinery in the government to process and analyze them.

Second, even the disclosure mechanism could bring about a regulatory delay through expanded bureaucratic activity and review as happened in the case of the Securities Act of 1933. The "full disclosure" requirements of that Act have through the years grown cumulatively into a very pervasive form of regulation with considerable delays. To a large extent this has been true also of the reporting requirements of the National Environmental Policy Act of 1969 ("NEPA"). Any legislation requiring disclosure should be tightly drawn to minimize this problem.

Third, safeguards would have to be established to maintain the confidentiality of this information. Its release could be a deterrent to producer governments desiring to secretly undercut OPEC price levels. On the other hand, much of the information required would be common knowledge to the international oil com-

panies and producer governments; a great deal of inside "intelligence" becomes industry knowledge through publications such as Petroleum Intelligence Weekly, Platt's News Service, the Middle East Economic Survey and other sources. Except in the case of incomplete transactions, unintended disclosures would probably have relatively little impact. In any event, the confidentiality problems of a U.S. agency should be minor in comparison to those of the IEA and the EEC.

Although greater Federal Government involvement in the negotiation of foreign supply contracts may be beneficial, disclosure alone could be a useful halfway step. It does not involve the political costs of a more intensive regulatory approach to the problem, while providing public assurance that a vital industry is being scrutinized. Disclosure of preexisting and proposed international supply arrangements would, however, be an effective component of a review and approval type of process. In this respect, however, it should be noted that analysis of the data presented will require a more thorough understanding of the workings of the international petroleum industry than U.S. Government agencies have traditionally demonstrated.

Review and approval.—The power of an agency of the U.S. Government to review and approve or disapprove international supply arrangements would be a more active form of regulation. The purpose would be to safeguard the national interest by preventing supply arrangements from being made that were determined to conflict with national objectives.

It would be of vital concern that such governmental review not unreasonably impede commercial activity. Petroleum is too vital an industry to the world economy to impair its efficiency by the imposition of a cumbersome bureaucratic process. Protracted administrative procedures, such as those of the Federal Power Commission in its review of foreign LNG contracts, could have disastrous consequences in the fast-moving world of international petroleum. Time is critical and valuable opportunities could be lost while the wheels of bureaucratic review were turning. Moreover, the timing problem could be aggravated by political controversy and the resulting reluctance of the reviewing agency to make a decision.

Unless there were a clear statutory exemption, NEPA would probably be applicable and the reviewing authority would be required to prepare an environmental impact statement or assessment regarding all arrangements proposed to be approved that would have a significant impact on the environment; this could extend to the environment of the producer country involved. The massive delays that NEPA-related administrative and judicial proceedings have caused in energy projects are well-known. The possibility of a judicial review of the agency decision on the ground that the agency exceeded its authority or other grounds is yet another potential dampener of commercial activity. The practical effect of any such delays could be to render U.S. companies substantially less competitive in the world market. It would appear entirely appropriate, therefore, to shelter the decision-making process from independent intervention to the maximum extent practicable on the obvious grounds of national security.

Another problem associated with government review is that, unlike most other consuming nations, the U.S. Government has made relatively little use of industry personnel in its decision-making, largely because of widespread public distrust of such individuals in government. The result may or may not have been to produce greater "objectivity" in establishing policy, but it has also caused a fragmentary and incomplete understanding of how the international industry and market work. The capacity for damage by misguided governmental regulation to the intricate web which channels the flow of investment capital and petroleum resources is enormous, and there appears to be an unfortunate underestimation of the need for experience and understanding on the part of the government officials to be involved in any new regulatory scheme for international petroleum affairs.

Even assuming sufficient competence, there remains a problem inherent in decision-making by any agency which is ultimately responsive to the ebb and flow of political pressure. There are few decisions which involve greater political risk than one which affects the price which consumers pay for gasoline or heating fuel. The generally mistrustful attitude of the public toward the oil industry is another important political element to be reckoned with, as is the immense power of the large petroleum companies and their thousands of shareholders. If government review of foreign supply contracts is to work effectively, the agency involved must be able to act relatively independently of political

pressure which may trade short-term political gain for long-term effective resource management.

Some of the risks of undue political pressure or favoritism may be eliminated by the promulgation of "objective standards" in the form of regulations. On the other hand, the complexity of the industry is such as to defy an easy or precise definition of what is beneficial or not to the national interest. Often an otherwise acceptable foreign supply arrangement may not be in the national interest simply because of its timing or precedental impact, the nature of the parties involved, the general circumstances in the international market beyond the control of the parties or less directly affected aspects of foreign or domestic policy. In reviewing such arrangements, it is inevitable that a great amount of discretion will have to be given to the agency involved. In view of the crippling effect which the disapproval of a major supply arrangement may have on a petroleum company, the width of discretion allowed the administrator in whose hands the decision is placed may even raise questions of constitutional due process and the possibility of time-consuming judicial review. The question may be raised, in fact, as to whether some form of compensation might not be appropriate in the case of a company whose ability to continue carrying on the petroleum business is impaired or destroyed by the Government's disapproval of a major supply arrangement, particularly a preexisting one being renegotiated at the insistence of a producer government.

The foregoing problems are not necessarily insurmountable, although they do indicate the costs which this option would necessarily involve. An agency with the independence of, for example, the Federal Reserve Board, which would be able to make discreet use of retired industry personnel might be able to muster the requisite independence and expertise. The timing question could perhaps be resolved by imposing a relatively short and mandatory time limit for the agency to act if it is to disapprove a contract. This type of deadline, together with sufficient disclosure requirements on the companies and an adequate agency staff, could make speedy decisions possible. It would also seem desirable to provide for an automatic approval of a proposed arrangement at the expiration of the specified time period, unless it was disapproved by the agency within that period.

As noted above, the scope of the government review could be quite broad or include only foreign supply contracts involving imports into the U.S. market.

Judgmental factors.—The costs of government review and approval must be weighed against the benefits which might be achieved in the implementation of national objectives. It does not appear that greater U.S. Government involvement in foreign supply arrangements would give them any greater degree of security or assure increased crude oil supplies. A case can be made that it raises the political risk to a producing government considering the breach of a supply contract, but it can also be argued that the indirect presence of the U.S. Government would make the arrangement more vulnerable to political attack by the producer countries. The producer governments have shown no high regard for consumer government interests in supply arrangements as demonstrated by the nationalization of British Petroleum in Libya in purported retaliation for Middle Eastern policies of the British Government and the treatment of CFP and ELF-ERAP in Algeria. The U.S. interest in arrangements being negotiated could prove, however, to have a positive influence in that the negotiating company would no longer be an independent hostage of the producer country. The approval powers of the U.S. Government could give the company a "fall-back" negotiating position which the producer country would know the company could not unilaterally change.

The right to disapprove contracts could possibly promote greater security of supply if used to direct purchases of foreign imports toward more "reliable" sources and away from producers who are likely to embargo the U.S. for political reasons or curtail production. It is questionable whether this usage would improve the system, however, because the petroleum companies also stand to suffer from a sudden embargo or production cut, and their decisions on where to invest and from whom to purchase reflect their on-the-spot assessment of the relative stability of the sources involved.

It should also be noted that there are very few, if any, fully reliable producer countries. The United Kingdom with which the United States has a mutually acknowledged "special relationship" and whose petroleum company, British Petroleum, has very large interests in the Alaskan North Slope and elsewhere in the United States, is actively considering proposals for North Sea participation and severe taxation that would seriously affect companies operating in the North

Sea. The U.K. is also talking of "conserving" its enormous North Sea reserves by restricting development and has given indications of a possible intention of restricting production to British markets. Norway has an announced policy of restricting its very large anticipated North Sea production so as to generate only such revenues as its economy will be able to efficiently absorb. Canada, our neighbor and largest trading partner, has stated that it intends to curtail all exports to the United States within the next few years. At the same time, by a combination of federally imposed price controls, severely restrictve federal income tax provisions, and dramatically increased royalty rates by the provincial governments, Canada has abruptly reversed the economic incentives for investment by U.S. companies and has made supply arrangements to the United States more expensive and less secure. Mexico has indicated that when it soon achieves export capacity from its new discoveries it will follow OPEC pricing practices. Whether it is the Peoples Republic of China or the Kingdom of Saudi Arabia, there is a universal intention on the part of exporters today to maximize returns. Insofar as reliability is concerned there appears to be very little difference between OPEC members and any other exporting countries.

Moreover, as mentioned earlier, the forcing of U.S. companies away from traditional supply sources in the interest of security may simply render them uncompetitive in comparison with foreign companies and could result in petroleum being directed elsewhere. Investments (e.g., European refineries and marketing outlets) have been made by U.S. companies predicated on particular foreign supply sources. To require these companies, many of which serve largely foreign markets in any case, to seek other sources could be very costly to them.

It must be constantly remembered in considering this option that the review and approval powers of the Federal Government could be very easily used in a way that would be punitively damaging to the U.S. companies without in any way improving the stability or cost of international sources of supply. On the other hand, it is clear also that it would effect a very basic political benefit: that of establishing the confidence in the public that international supply arrangements by U.S. companies are being made in a way that will not conflict with U.S. national interests. With due regard to the very political nature of international supply arrangements, this consideration alone could outweigh the very substantial economic costs involved.

Some see governmental review of foreign supply arrangements positively affecting prices for foreign crude. In analyzing this concept two basic types of price problems should be distinguished. The first is the transaction in which a buyer or off-taker agrees to a price which, although it may be favorable to him results in a higher level of world prices, or otherwise has a strong adverse precedental impact on world pricing. The second problem is the current level of world petroleum prices itself, which is widely believed in the consuming world to be too high.

Control of precedental transactions.—There are in turn two examples of precedental individual transactions. First, a company may be willing to pay a higher price on one purchase of petroleum in order to protect a preferential position on supply or price. An interesting agreement to look at is the Kuwait/Gulf-BP contract of 1974. Under its terms, Gulf and BP agreed to increase the price paid for buy-back oil from 93% to 94.85% of posted price. Because of the "most favored nation" provision of Persian Gulf contracts, all other producers in the Gulf could now charge 94.85% of posted price on buy-back oil. Accordingly, the cost of a composite barrel of oil to other offtakers was now higher, and therefore, assuming this increase was passed through, consumers paid more as well.

In fact, however, Kuwait gave a premium to Gulf and BP because they were not required to buy all of the more expensive buy-back oil. Thus while Aramco offtakers' had 60% of the more expensive buy-back oil in its composite barrel of oil, the share for Gulf and BP was only 40%. For Gulf and BP, this was very good, but for the others it created a precedent which raised the cost of oil. Abu Dhabi later gave a similar concession to its offtakers whereby a composite barrel of oil had 50% buy-back oil, but the downward portion of the price precedent did not hold. The increase to 94.85% of posted price held.

Gulf and BP made a good deal for their stockholders. To have refused the Kuwaiti terms would have jeopardized their preferred access. The example illustrates how the companies under current OPEC dominated markets are whipsawed. Because the price of oil has become a political matter no company can hope to address it alone, nor can an individual company be expected to penalize its stockholders in pursuit of still inchoate policy goals of the U.S. Government.

The second situation occurs in times of short supply when small purchasers, often utilities and other consumers, find their previous sources of supply insecure and are forced out on the world market seeking supplies at any price. The "bidding up" of prices on spot cargoes and small direct purchases as a result of the desperation produced by short supply was a common phenomenon during the recent oil crisis. Both of these situations may be equally detrimental to the ultimate consumer.

Producing nations have a generalized concept of the "fair value" of their petroleum. This notion affects what they consider their minimum acceptable price level. When companies, protecting a preferential position or attempting to secure some source of supply, are willing to pay substantially more than other purchasers, producing governments often interpret this as an indication that the current price is too low. In addition, as was learned in the negotiations of 1970–71 and subsequently, if one producer government decides to raise its prices, the others may be expected to follow suit. Under the "most favored nations clause" found in Persian Gulf supply contracts, for example, a higher price paid by a company to one producer government to maintain a company's access to cheaper equity crude will give the other producer governments the right to the same price from purchasers of its crude. Thus the precedental significance of individual supply arrangements is very important. Every major supply contract has some effect upon subsequent contracts both in that country and elsewhere.

A government right of review would be unlikely to have substantial effect upon the bidding up of prices during an embargo or other short-term supply interruption. The quantities involved in most of these purchases are generally small and, although the producing governments will often attach considerable importance to them, the benefit derived from regulating them would not justify the enormous cost. An alternative form of regulation would be an across the board price ceiling on imports, as discussed in an earlier section of this Study. Neither a power of disapproval nor a price ceiling, however, will fully solve the price problem. If the interruption of supply is sufficient to drive small U.S. purchasers onto the world market, it will have a similar effect upon purchasers in other consuming nations. This was the case during the recent embargo. If not restrained by their respective governments, these purchasers will be queuing up to take the place of any U.S. purchaser whose contract has been disapproved by the U.S. Government. The result would be a self-inflicted compounding of the shortage in the U.S., with the huge costs attendant to losses in employment and GNP, while non-U.S. purchasers continue to exert the same escalating effect upon world prices.

A better way to deal with the bidding up of spot prices during an interruption of supply would be a price ceiling imposed in conjunction with other consuming nations, such as through the IEA. By such cooperative efforts, the incentives for purchasers to bid up prices would be greatly reduced. The major problem, of course, would be that if supply is sufficiently short, the countries participating might have to endure substantial shortfalls in their supply and the resulting economic impact. This would severely strain what would essentially be a consumer cartel. Under existing conditions it seems unlikely that it could survive.

The supply contracts in which a higher price is paid to maintain a preferred position are more susceptible to control under a scheme of government review and approval. These arrangements are, as a rule, much larger and their precedental impact is accordingly greater. For example, negotiations between any of the major multinational companies and their Persian Gulf host governments will be watched with keen interest by the entire petroleum world.

A preferential price or access is something to which both the company and the producer governments attach value. Accordingly, if U.S. Government disapproval were to cause a company to lose its position, that could result in economic conditions contrary to the national interest. If no other companies were willing or able to take its place, the producer would have to sell at a single price to all purchasers which, according to some, would make it harder for OPEC nations to maintain their cartel-like unity because of covert and indirect price cuts.

If the U.S. Government structured its review so as to apply only to crude destined for the U.S. market, the companies, valuing their preferred position and seeking to be able to maintain it, would adjust their distribution network as to avoid bringing themselves within the web of U.S. regulation. They would, accordingly, seek to sell petroleum purchased under such agreements to non-U.S. markets, but the precedental impact of such agreements would remain and would have the same escalating effect on the price of other crude, some of which would be destined for the U.S. market.

Should a company be unable to sell its crude elsewhere and be forced to give up its preferential position, it is likely that companies from other consuming nations would be willing to take its place. Thus, there would be a transfer of preferential positions from U.S. to non-U.S. companies with no effect upon world price levels. The U.S. Government, then, has limited ability to unilaterally prevent the adverse precedental effects paid for preference of access; it can only affect which companies are paying.

If, however, consumer nation cooperation were sufficiently advanced so that other consuming governments could and would prevent their companies from seeking the preferential positions abandoned by U.S. companies, and vice versa, the action of the U.S. Government would be much more effective in controlling the price problems attributable to payments for preferential positions. Without such cooperation, the U.S. Government is engaged in a questionable activity if it is depriving U.S. firms of their advantages only to have foreign firms assume them. The essential element, however, is the requisite degree of consumer nation cooperation and not the unilateral action of the U.S. Government. Moreover, such cooperation under the IEP or otherwise does not appear to have developed to the necessary extent and the refusal of any major consuming nation to cooperate would be fatal to the implementation of this concept.

If the U.S. Government chose to impose this regulatory scheme on all purchases by U.S. companies abroad, the result would be similar. A large portion of Western Europe's petroleum and three-quarters of Japan's are provided by the international supply web of the U.S. companies. To our allies in Western Europe and Japan, the smooth functioning of this network is of critical importance. If the U.S. Government were to attempt to regulate the purchase of Middle Eastern and North African petroleum for consumption outside the United States, by seizing upon the "citizenship" of the intermediary companies, it could seriously prejudice the ability of those companies to perform their function as an international conduit of energy and have an adverse impact on U.S. foreign relations.

Although five of the seven majors which deliver most of the petroleum supply to Japan and Europe are incorporated in the United States, they are multinational corporations in the broadest sense of the word. Their "citizenship" is American, but the multinational corporations are involved in a number of different countries and owe legitimate obligations to each of them. Their recognition of these obligations was revealed by their conduct during the recent embargo in which they rerouted shipments so as to spread the burden of the shortage rather evenly among their many multinational customers.

These companies operate under an international patchwork made up of the regulations of each country with which they are connected. This presents no problem as long as one nation does not seek to regulate the company in a manner inconsistent with regulation by the others. When, however, a single nation attachs decisive significance to the particular connection between it and a company, to the exclusion of other involved nations, in order to justify a system of regulation which reaches beyond its territorial boundaries, the viability of the whole concept of a multinatiinal corporation is in danger. Such companies may be expected to seek to evade that country's jurisdiction by the use if foreign subsidiaries.

While some of the recent criticism of multinational corporations within the United Nations and elsewhere may have merit, any substantial abridgment of their logistical and managerial functions in international petroleum could have a crippling effect upon the world economy. In addition, it is an error to assume that these companies can be easily replaced.

Unless done in close coordination with other consumers the attempt by the U.S. Government to review its companies' foreign purchases arrangements, including supplies destined for other markets, would evoke grave concern on the part of other consuming nations. While basically in accord with the United States on broad matters of energy policy, most other consuming nations are very aware of their greater vulnerability to the economic weapons of oil producers and are sometimes concerned by the approach to these nations taken by the United States. Accordingly, they may be apprehensive of any action which would link their supply of energy to the political decisions of the U.S. Government, and these nations would quickly begin seeking their own sources of supply, free of possible U.S. Government interference. These efforts might, in turn, have an escalating effect upon prices. At a minimum, they would enforce the tendency to replace the present companies with national companies.

On the other hand, if there is logic in the regulatory concept, it should extend to the maximum number of relevant supply arrangements made by U.S. companies, including those made to supply foreign markets. This would maximize the control and presence of the U.S. Government, develop an informational base regarding the relationships between U.S. and foreign markets, and limit avoidance of the regulatory scheme by the use of the foreign market loophole. Similarly, it would seem logical to exert the maximum amount of pressure to discourage arrangements being made by foreign companies because of any competitive advantage over the U.S. companies created by the new system. There are abundant ties which the companies of certain of the consumer countries have with the United States which would serve as an appropriate nexus for regulation also. This approach would inevitably lead to a much greater U.S. Government involvement in the negotiation of international supply arrangements.

Regulation to affect world price levels.—The second possible use of review and approval would be as a device to achieve lower prices. In this case, supply arrangements would be disapproved, not because the price was out of line with current levels, but as part of a strategy for lowering these levels. Its success would depend on how badly the producing country needed the U.S. market of purchases by U.S. companies. Under existing market conditions, it is doubtful that much could be accomplished. Even with current worldwide softness of demand, if other consumers were not forthcoming to purchase the supply refused by U.S. companies, the existing level of prices could probably be maintained by appropriate production cuts on the part of the producing government.

If the U.S. Government's disapproval of contracts at existing price levels were invoked in conjunction with a coordinated policy of consumer cooperation, the chances of producing an impact on price would be greater. The strategy most calculated to have an effect would be the disapproval of contracts from one or two selected producers whose national requirements make a reasonably steady flow of revenue a matter of great importance. If the U.S. Government disallowed further purchases of this country's crude (and other consumers either did likewise or declined to fill the void), the resulting necessity of shutting in production could become very costly to that country. It should be noted, however, that the most vulnerable producer countries (such as Indonesia and Nigeria) are nations which we would not wish to isolate. This format of consumer nation cooperation would be materially assisted by a "safety net" form of cooperation among the companies which would assure those affected by such regulation of other sources of supply.

Whether, however, the U.S. would endure a self-imposed embargo of any size is doubtful, considering the political impact of the resulting decline in economic activity and high unemployment. This cost could be avoided if the U.S. were able to cover the shortfall with purchases from other producing countries. OPEC would, however, undoubtedly immediately recognize that the strategy constitutes an attempt to "pick off" its most vulnerable producers. Like the companies, the producers may have learned from the Libyan negotiations that the strength of the group can only be maintained by protecting the weakest of the members. The obivous OPEC response would be fore the residual producers to make cuts in their production equal to the shortfall caused by U.S. refusal to purchase from the producers it seeks to isolate. It might be able to ease the situation by spreading the shortfall among other consuming nations, but this could be countered by further production cuts. Thus, if the residual suppliers were willing to play their part, they could check any such consumer strategy under current market conditions by converting it into a standoff situation in which consumers, who are more vulnerable, would probably lose.

The success of any strategy to reduce world price by disapproving selected contracts—whether by the U.S. Government unilaterally or by consuming nations collectively—depends upon the ability of OPEC to recognize the challenge and the willingness of the residual producers to shoulder their burden in order to maintain OPEC unity. Since producing nations owe much of their recent economic and political strength to the unity of OPEC, it would be very unlikely that they would fail to respond to such a clear political confrontation by consuming nations. The willingness of OPEC producers to unilaterally cut production in order to maintain OPEC unity has already been amply demonstrated by the actions of a number of OPEC members. In fact, the political climate, both domestically and internationally, would make it virtually impossible for any OPEC member not to vigorously respond to this threat.

Conclusions.—At a minimum it appears necessary for the U.S. Government to obtain information regarding international supply arrangements directly affecting U.S. supply from companies operating in the United States, which would include both U.S. and foreign companies. In addition, it may also be desirable to obtain such information regarding petroleum-related investments in the United States by foreign governments and corporations, wholly or partially governmentally owned, which materially affect U.S. supplies, or other considerations of national interest, including national security and foreign relations. It may also be desirable to have information regarding certain forms of foreign downstream investments which could impact upon U.S. supply.

There will be a clear need to narrow the quantity of information required to that which is the most relevant and material. There can be little question, however, that this informational base is necessary and desirable in the important area of evaluating United States policy and formulating governmental policy and action in international petroleum affairs.

The disclosure requirements could serve as a springboard for broadly based administrative action by the agency involved which could effectively convert the process to a more onerous and time consuming form of regulation as was done in the case of the disclosure requirements of the Securities Act of 1933, and in a sense also in the reporting requirements of NEPA. The potential regulatory character of a disclosure statute poses both the issue of how the legislation authorizing it can be limited to the disclosure function and whether practically it should be. If the present situation is one that realistically requires the involvement of the Federal Government the question goes logically to the best form of that involvement. It serves little to either the Administration or the Congress to permit a system to grow by accretion through ad hoc administrative actions.

A much more serious question is presented by the review and approval method of regulation. The rules regarding disclosure could develop into a more broadly based regulatory format, but it would probably take a substantial period of time. The review and approval concept, however, could cause severe and immediate disallocations within the international supply system unless used with great care and sensitivity by the responsible agency. The direct cost of creating an appropriate Executive Branch monitoring capability could be quite significant because of the sophistication that would be required in its personnel and the extent to which its regulatory functions would carry. The indirect costs of the system could be much greater and potentially could be very disruptive of the national and international economy. If the energy supply to the United States and/or the rest of the world that is served by the regulated companies were materially impaired because of the unwise operation of the system, the economic consequences could be large.

On the other hand, it is very true that events in global petroleum affairs have drastically changed the traditional system of supply, demand and distribution and that the oil companies today are relatively powerless in dealing with producer countries. The basic question then is whether the United States presence should be, even if only indirectly, interjected into international petroleum arrangements affecting U.S. supply and other identified national interests. The question is a highly political one and this consideration is emphasized by the fact that predictably under prevailing conditions, the selection of this option would have little direct impact on domestic petroleum prices, at least in the short term. On the other hand, it does provide both a window and a potential lever of the Federal Government in international petroleum affairs which could prove to be of great benefit. If consumer nation cooperation is increased, if the world petroleum supply base is broadened, if consumer nations develop a strong program of conservation and utilization of alternate energy supplies, if safety net arrangements could be established for important strategic areas, then this regulatory format in the U.S. and other important consuming countries could have a strong impact on world pricing and the OPEC cartel.

The oil industry generally and quite strongly opposes this form of regulation, and with good reason in view of its potential for economic disruption. The day of laissez faire arrangements in international petroleum affairs has, however, clearly passed. A new role of the U.S. Government in international petroleum affairs is necessary. This option, particularly in conjunction with selected other options might establish U.S. Government control points in international petroleum transactions and restore public confidence that such arrangements are consistent with national policy objectives.

5. *Creation of a petroleum corporation, fully or partially owned by the Federal Government, to engage in international activities*

There have been recent proposals to create a Federally owned oil and gas corporation to explore for and develop domestic petroleum resources, particularly those owned by the Federal Government. The rationale given for this concept is that such a corporation could serve as a "yardstick" by which to measure the performance of U.S. private corporations and also to facilitate the development of higher risk areas such as the Outer Continental Shelf. These are, however, essentially domestic concerns and beyond the scope of this Study.

In the context of international petroleum arrangements the concept of an oil company wholly or partially owned by the Federal Government has viability largely as a means through which the Federal Government could assert its presence in such arrangements. This option has been given impetus by the increasing presence in international petroleum affairs today of both producer and consumer government-owned companies.

At the outset it should be emphasized that if a precept of a Federally owned international oil company is that it is to serve as a "yardstick," it can do so only if it is in all material respects similar to a private company: if it has no special advantages and no competitive handicaps vis-a-vis privately owned companies. If the Federally owned corporation is in fact comparable to the private company, it may well be in no better position to perform the various petroleum industry functions than the private companies are.

A number of significant fully or partially government-owned corporations have been created by consumer governments for such special purposes, largely to give them secured access to foreign petroleum reserves independent of the U.S. companies. When the French Government acquired 35% interest in CFP, now the world's eighth largest oil corporation, it did so "to create a vehicle for realizing a national oil policy." Notwithstanding this significant governmental influence (the Secretary of the board of directors is a designate from the Foreign Ministry), CFP began to conduct its affairs in the same manner as privately owned companies. Because of this it avoided the exploration and development of a number of areas, including the French-held Sahara Desert and France itself, because of the magnitude of its proven Middle Eastern reserves. President DeGaulle in 1966, therefore, created ELF–ERAP, a wholly owned government corporation, to develop these areas. In time even ELF–ERAP, together with its 51% owned subsidiary Aquitaine, began to drift from its original mission and today it operates very much in the manner of a private company and is engaged in exploration and development in areas of the world, such as Canada, the United States and Asia and services markets completely unrelated to those of France.

ENI, wholly owned by the Italian Government, also fits this pattern. While formed for essentially political purposes, it operates in most respects as does a private company. The interest of the British Government in British Petroleum, now 70.5% (since its very recent acquisition of the 21.5% interest of Burmah Oil Co.) was originally acquired shortly before World War I in order to provide the British with secure accesss to Middle Eastern petroleum supplies with the then paramount thought of servicing the Royal Navy which was just converting to oil burning engines. While the British Government has two representatives on the board of directors, it is established governmental policy not to intervene in the operations of the company except in the case of national emergency and the company performs virtually in the same manner as do the other "Seven Sisters." BP has worldwide supply and marketing arrangements, including very substantial ones in the United States.

These illustrations point up one basic factor. In order to create a petroleum corporation, whether privately or governmentally owned, it is necessary to assemble from the pre-existing industry those with technological and managerial skillls sufficient to fulfill the assignment. If this is done adequately, the personnel have simply been acquired from other companies and what has in effect been created is "just another oil company." This is perhaps justified when a consumer nation does not have an industry capable of entry into international supply arrangements, but in the case of the United States, private industry has historically maintained a very broad-based access to foreign supplies. The creation of a governmentally owned company would, therefore, seem to be in most respects an act of redundancy.

In addition, it should be noted that there is in many European countries a tradition of government-owned enterprises established to accomplish policy ob-

jectives which in the United States have historically been pursued by the regulation of private industry, such as antitrust laws. While the British Government acquired British Petroleum in large part because Winston Churchill, then the First Lord of the Admiralty, feared the monopolistic power of the Standard Oil Trust, the U.S. Government broke it pursuant to our antitrust laws. Thus, although logically one might propose that the U.S. create a governmentally owned corporation to cope with problems in the oil industry, such logic would probably apply with equal force to various other industries (such as automobiles, steel, and airlines) in which the governmentally owned company approach has been rejected, if ever seriously considered.

The governmentally owned oil cororations of producer countries, such as Petromin (Saudi Arabia), National Iranian Oil Company, Pertamina (Indonesia), and CVP (Venezuela), do not serve as useful precedent in evaluating this option. They are in large part simply an extension of the government and with very few exceptions lack the expertise, technological skills and managerial competence that is necessary in order to perform the obligations required in international petroleum arrangements. With few exceptions also this type of corporation has been found to be grossly inefficient when gauged by the standards of private petroleum companies.

The record of inefficiency is not confined to companies of producer countries. This has been the pattern elsewhere (most of the government corporations of consumer countries examined have been heavily subsidized) and it is likely in the case of the United States, perhaps even more so with due regard to our relative lack of familiarity with this type of system. Government corporations are responsive to political pressures that are wholly unrelated to economic aspects of their mission, and this breeds inefficiency.

The research performed in connection with the Study yielded no evidence that any existing governmental corporation is more efficient than private enterprise, although there were suggestions that the Tennessee Valley Authority ("TVA") may be no less efficient, despite its clear record of subsidization. There was a uniform record of opposition to this concept by the industry and certain of the public interest groups surveyed. The latter expressed the view that governmental corporations are less accountable to the public than private ones, citing the TVA posture on environmental matters. There is a danger that any such inefficiency could result in upward pressure on market prices if the government corporation was big enough to have a significant share of the oil market, unless the inefficiencies were subsidized by unrelated Federal revenues.

The United States could, of course, acquire a substantial or controlling interest in an existing company in much the same way that the British and French Governments did with respect to British Petroleum and CFP. As has been seen, however, these companies have functioned basically as have other private companies, and it is very questionable whether any public purpose would be served thereby with the possible exception of having greater transparency to the government of the operation of the industry through representation on the company's board of directors. The ambiguity inherent in this type of business organization with its potential conflicts between private and public interests, however, make this proposal a particularly novel one for the United States. Typically, in this country the distinctions between business and government have been much more clearcut and formalized than this type of arrangement would permit. Moreover, a very basic question is presented: if this type of arrangement is appropriate for the petroleum industry, why is it not appropriate for other industries having strategic value to the United States? Thoughtful industry regulation, rather than acquisition, seems much more in keeping with the American system.

Other possible disadvantages of a governmental oil corporation include the possibility of a government-to-government confrontation growing out of the corporation's activities. While it is clear that these international companies do not act as the "poltical buffer" that perhaps they once did, they nevertheless do not present the type of consumer government presence in producer countries that a governmentally owned corporation would. As noted earlier, such countries have not hesitated to use even partial governmental ownership as a basis for attacking the company to protest the policies of its government.

Exploration and production from foreign reserves.—Internationally, a governmentally owned corporation might explore in areas abroad where because of risk or cost private companies have been unwilling or unable to go, but where

for reasons of security of supply the nation as a whole would benefit from possible discoveries, presumably in relatively "reliable" areas. As noted earlier, however, there are very few areas of the world that can be considered "reliable" today.

Further, it is doubtful that production agreements between host governments and companies owned by consumer nation governments are any more secure. Such agreements have been unilaterally altered or abrogated by producing countries in the same manner as agreements with privately owned companies.

Importing.—A governmentally owned corporation might be given either exclusive or nonexclusive rights to import oil for U.S. markets. Making the government corporation the exclusive importer of oil would be one means of implementing a policy of total government authority over imports, as discussed in the limitation of imports section. Such a corporation might be used as an instrument to enforce national import policies, includng favorng certain sources of supply over others, lmiting the aggregate amount of oil imported or the price paid per unit, or generally reducing upstream competition among buyers of producer country oil. None of such possible policies, however, would appear to require the creation of a governmentally owned corporation to participate actively in industry functions. All could be achieved by a variety of more conventional means. such as regulation, taxation, and subsidization of existing privately owned companies.

If such a corporation were formed, the government-imported oil, could be disposed of by sales on the open market to refiners and wholesalers, by allocation to specific refiners, wholesalers or users, or by any combination of sale and allocation. In any case, the government corporation would be under severe pressure to use a form of marketing that would assure continuity of supplies and price at least roughly comparable to that provided by ordinary commercial transactions. This constraint would limit the freedom of the government company to deal with producing country governments in ways that depart significantly from ordinary commercial practices. Either the government company will behave essentially like a private company or increased costs and disrupted or reduced supplies will be likely, at least in the short-to-medium term.

As with a governmentally owned exploration and production company, an exclusive governmentally owned importer might make a deliberate attempt to shift import sources to relatively "reliable" producer countries, despite some commercial disadvantages thereby incurred, with the hope of reducing dependence on less reliable countries. On the other hand, a transaction of this type could simply reflect the desire of the U.S. Government to augment the income of a particular power by indirect means, perhaps so as to avoid the need to seek and defend foreign assistance funds from the Congress. This was the case with the foreign tax credit and Saudi Arabia in the 1950's. It is not the only example.

Another possible government import policy which transcends immediate commercial rationality would be to diversify import sources among as many oil-producing countries as possible, on the theory that this will increase the potential for competition among would-be suppliers to the U.S. market and make all such suppliers relatively insecure in their U.S. market shares. The Federal corporation might attempt to work out long-term import deals with newly emerging oil exporting countries such as Mexico, China, Southeast Asian countries, and even the U.S.S.R., under circumstances where private companies have little or no incentive to do so. The oil so imported could be sold in U.S. markets and would tend to hold down imports from other sources, including the present leading suppliers of the United States. Some oil exporting countries may have a strong preference for dealing on a government-to-government basis through a government-owned importer. If this preference were so strong that the exporter would refuse to deal with a private oil company, or would do so only under less favorable terms, then a government corporation may be justified.

These possible policies, or others that might be devised for a governmentally owned importing company, may require as long as several years before they bear substantial fruit. By then, however, the state of the oil market could have changed drastically, rendering such policies superfluous or even counterproductive.

A governmental corporation with non-exclusive rights to import would face options and problems similar in most respects to those of a governmentally owned exclusive importer, except that it would impinge less radically on the commercial interest of existing companies. A non-exclusive importing corporation would also tend to increase competition for supply arrangements. Such increased competi-

tion is adverse to U.S. national interests to the extent that it helps to strengthen the market position of oil exporters. As in the case of the exclusive governmental company, this company would probably contribute to higher prices. Unless it were regularly subsidized, a price floor would be set by this company above the level which competition between commercial companies would determine.

In light of the above factors, creation of a governmentally owned importing company must be regarded as an option with a rather high initial cost and limited promise of significant long-run benefits.

Petroleum storage.—Storing a strategic reserve of crude is a possible function for a governmentally owned corporation. The security value to the nation of having a relatively large stored reserve of crude is not adequately reflected in the ordinary oil market within a time span short enough to be of interest to a private company. There is thus inadequate incentive for private companies to store as much as would likely be optimal for the welfare of the nation or for consumer nations generally, as evidenced by the storage requirements of the IEP. For instance, if an embargo could be expected only every 12 years, private companies would probably not be interested in building up supplies in anticipation thereof, even if such supplies could be sold at a substantial profit, free from price controls, when the embargo came.

There are, however, various ways, including tax incentives, to provide private companies with the motivation to create storage that would be more consistent with the other aspects of the U.S. system. Thus, it is doubtful that the storage rationale alone would justify the creation of such a company.

Research.—Government participation in energy research, including pilot projects in secondary fuel sources is relatively easy to justify. This is the concept underlying the newly created Energy Research and Development Administration ("ERDA"). The benefits of scientific and technical progress cannot be entirely captured by the entity making them but quickly become diffused to the entire industry and the entire society. There are, however, many ways in which the Federal Government can and does promote research and development besides through a governmentally owned entity, and the creation of ERDA would seem to render the question moot.

Finally, creation of a new Federal corporation to do any or all of the above on a large scale would involve a substantial fiscal outlay. If, for instance, a corporation were created of a magnitude comparable to a private firm that supplies 3–4 percent of the U.S. petroleum market, it would probably require a net investment of at least $2 billion.

Conclusion.—Whether viewed economically, functionally or from the standpoint of the overall public interest, there appears to be no convincing basis under today's conditions upon which to recommend the creation or acquisition of a company of which the U.S. Government would be the whole or partial owner to participate in international petroleum transactions. Undeniably the U.S. Government must have a greater role in international petroleum affairs than it has had in the past, but this option clearly appears to present an inefficient, and potentially counter-productive method of asserting the U.S. presence.

B. Bilateral/multilateral options

6. Coordination of international supply arrangements through an industry wide association of consumer country companies

The creation of an international association of petroleum companies, in which all consumer nation petroleum companies which play a substantial role in the international petroleum industry would be represented, would be directed to the objective of maximizing the bargaining leverage of companies in their dealings with producer governments and expanding the understanding of consumer governments of the limits of the companies bargaining position. Although it is widely understood that the companies are no longer able to effectively bargain with producer governments on price, full consideration has not been given to the potential bargaining position of the companies if enhanced by government encouraged and coordinated planning and strategy.

With their control over the transport and downstream marketing of better than 80% of OPEC's production the companies still have some residue of the market power which for a half century allowed them to exercise extensive control over all aspects of the industry, including pricing. Although much of this power has been eroded by the increased strength of producer governments, some

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of the conditions which contributed to the rapid deterioration of the companies' bargaining position during the last four years might be countered or emeliorated in future negotiations. One of these factors was the extreme vulnerability of certain companies to threats of production cuts or nationalization which thereby reduced the ability of the companies to maintain a united front. A second important factor was the shortsighted policies of the United States and other consuming governments which not only impeded the ability of the companies to coordinate their 1970–1971 negotiations in Teheran and Tripoli, but actually undermined their position by making concessions to producer governments at the diplomatic level.

These two factors combined to render the companies incapable of bargaining individually and left their attempt at shoring up their position through the London Policy Group ("LPG") fragmented and ineffectual. (See historical section.) Although these conditions forever ended the era in which the companies could dictate price levels to producer governments, they have not completely nullified the ability of the companies to negotiate price in times of excess world capacity, provided that consumer governments pursue policies which are supportive of that end.

To accomplish its objective of improving company bargaining strength, the association would have to include all consumer nation companies with sizeable producer country supply arrangements. A precept of the organization would be full prior disclosure of all proposed supply arrangements, an understanding not to compete with other companies for certain categories of supply arrangements and "safety net" agreements to provide some measure of insurance for those companies which might lose sources of supply as a result of complying with joint decisions. In most important respects and functions, it would be a recreated and probably more broadly based LPG. For political appearance as well as ease of administration, the obligations of the member companies would be on an informal basis, the good faith performance of which would be left to the companies' respective governments to enforce as they saw fit. For companies with full or partial governmental ownership this would pose few problems in light of the high degree of cooperation with government which typifies them. Ways in which the cooperation of U.S. companies could be secured are discussed below.

The purpose of the association would be to enhance the companies' bargaining position by the exchange of information, the reduction of upstream competition and the formulation of affirmative strategies for maximizing downward market pressure on prices by, for example, shifting purchasing patterns among the companies to focus softness in world demand on selected producer countries. The association could also develop strategies for inducing producer countries to increase the attractiveness of their crude by such non-price variables as discounts for quality, transportation or other services rendered by the company, credit terms, delayed payment of purchase price or acceptance of soft currency.

One advantage of the association would be that it could serve as a device to channel and direct market forces and consumer leverage in times of long supply through the relatively low profile and apolitical environment of a large number of individual commercial transactions. Since much of the beneficial impact of focusing softness of demand on the most vulnerable producers could be offset by the cooperation of the large residual producers in setting up a financial "safety net" for OPEC, it is important that any strategy be integrated into the complex web of commercial activities. The risk cannot, of course, be eliminated, but it would appear to be much lower than if this strategy were pursued directly by consumer governments. The dangers inherent in diplomatic confrontation over price levels may be replaced by the subtler effects of indirect coordination of supply arrangements so as to maximize the incentive and opportunity of producer governments to compete.

The U.S. antitrust laws pose a major problem for industry cooperation of this type. While the vigilant enforcement of these laws in the U.S. market implements an important national objective, the U.S. Government's concern for maintaining competition among its companies in the acquisition of foreign supplies has not only been unappreciated by other consuming nations but has contributed materially to the inability of these companies to negotiate lower prices from OPEC governments, a self-acknowledged cartel. The purpose of these laws is to eliminate the power to take monopolistic or oligopolistic profits but they have no effect upon the producer cartel faced with competing buyers. Because the companies are largely only price takers and are generally able to pass

higher prices on to the consumer, the application of the antitrust laws to their negotiations with producers has ultimately resulted in higher prices.

If the industry association is to act effectively, there must be an exemption from the antitrust laws for coordination of company upstream activities while at the same time maintaining enforcement of competition downstream. This division of industry activity for purposes of the antitrust laws is admittedly not easy, either in theory or in practice. It is, however, essential if companies are to act in greater concert. The problem could probably be best dealt with by giving an exemption for association activities subject to continuous review by a competent and knowledgeable U.S. Government representative who would be present at all meetings and privy to all communications.

A major problem with this proposal is insuring that once the association is set up, the companies will use it in the public interest. There is the suspicion among some observers that the companies are not interested in returning prices to lower levels. The impact of higher prices has largely been passed on very profitably to consumers, and as holders of large high-cost inventories, the companies might face very substantial inventory losses if prices fell. While the issue is unclear, any proposed plan for industry coordination will have to deal with the possibility that, for whatever reason, the companies may not wish to cooperate.

Some companies might be reluctant to join in the association for other reasons. Companies with good relationships with their producing governments, for example, might feel that participation would have an unsettling impact. Smaller independents, who are seeking to increase their share of the international market, might regard the non-competitive aspects of the association as merely an entrenchment of the status quo. To the many companies who have expressed a belief that prices can only be settled at the diplomatic level, the association may offer them nothing more for their efforts than an increased risk of antitrust prosecution.

Requesting the companies to join such an association and to discuss their foreign supply arrangements or proposed negotiations would probably not present a major problem; a substantial number of the companies indicated they would favor this option. Requiring the companies' participation in the Association would probably not be feasible in view of its strategic and planning functions.

Only one who had actually been involved in such an association's meetings and planning could judge whether all opportunities had been vigorously pursued and whether the companies had acted in good faith. The best entity to supervise the performance of the U.S. companies would be an agency of the U.S. Government, acting alone or preferably in cooperation with other consumer governments and intimately acquainted with the operations of the association. The assignment would logically fall to the agency given the responsibility for regulating international supply arrangements (Option No. 4 discussed above). The agency would have to be fully acquainted with the workings of the international petroleum industry, be independent of political as well as industry pressure and be capable of making decisions on very short notice.

Probably the most credible incentive for cooperation would be to mandate the designated Federal agency to evaluate the ability and willingness of the companies to use their best efforts to promote lower levels of prices and, after an initial period of two or three years, to report its findings to Congress and the nation. If it found that the companies were unable or unwilling to act in furtherance of the national interest, the agency could further be required to propose legislation to correct the situation. If, on the other hand, the agency found that the companies were in fact dedicated to working for objectives consistent with the national interest, the need for greater governmental intervention and regulation might not be present.

In addition to providing an incentive to active company cooperation, the designated Federal agency could also provide a leadership role. The association would probably include many companies of differing sizes, types of ownership and nationality. Their success in achieving substantial breakthroughs on price would be dependent upon their ability to work and plan in a coordinated fashion. The agency could provide a central source of guidance and direction, even if working behind the scenes through a caucus of U.S. companies. The effectiveness of such indirect leadership would depend upon the ability of the U.S. Government to secure the cooperation of other consuming nation governments so necessary to maintain the cohesiveness of the association.

The success of the association, then, would depend in large part upon the work of the Federal agency which, by way of summary, might have the following responsibilities:

(1) To evaluate the ability and willingness of the U.S. companies to negotiate lower levels of petroleum prices;

(2) To provide positive guidance to the U.S. companies in planning the strategy of the association;

(3) To coordinate these efforts with relevant agencies of the U.S. Government;

(4) To review and approve or disapprove foreign supply arrangements, assuming such a power is created; and

(5) To report to the President and the Congress after an initial term of two or three years on its findings with respect to mandate (1) above and, if necessary, to propose legislation which will make companies operating in the United States more responsive to U.S. national interests.

A risk which should be weighed in the evaluation of this option is that producer nations will regard it as an attempt to create a consumer cartel. This risk is increased by the role which the Federal agency would play in connection with the association. It should, however, be possible for the agency to act in a sufficiently discreet manner to reduce the risk of a political confrontation by emphasizing the fact-finding nature of its mission: an active and participating form of transparency. Producer countries cannot legitimately object to the desire of consuming governments to investigate and report on the activities and interests of their own peroleum companies. Any attempt to enhance consumer leverage has an inherent risk of confrontation, but this option entails less of a risk because the actual strategy of the association would be obscured in the context of the multitude of commercial transactions which constitute the world petroleum market.

This option is not a panacea for the problems of international petroleum supply and price. It does, however, have the advantage of relative low cost and a basic compatibility with other options examined. If the U.S. companies cooperate, this option could maximize their bargaining leverage in negotiations with producer governments. Whether or not this option would, in fact, have any effect upon prices is problematical.

In addition to whatever effect the association might have, the role of the designated Federal agency would give the U.S. Government a better understanding of the role of the companies in international petroleum affairs and of their ability and willingness to negotiate terms consistent with the national interest. Such knowledge would, if profitably used by the Congress and the Executive, provide a basis for future action to eliminate such inconsistencies as may exist between the interests of the companies and of the United States.

7. *Bilateral arrangements between the United States and producer governments*

One of the results of the 1973–74 embargo was an increased interest on the part of consuming nations in negotiating bilateral agreements with producer governments. Such arrangements were not unusual prior to the embargo, but the current world situation of uncertain supply and high prices has caused these arrangements to seem even more attractive. There are three primary objectives which consuming nations have sought to accomplish by the use of bilateral agreements:

(1) Obtaining greater security of supply;

(2) Cultivating "special relationships" with particular producer nations; and

(3) Improving the consuming nation's balance of payments position.

To evaluate the effectiveness of bilateral agreements they must be analyzed to determine the extent to which they are successful in accomplishing one or more of these identified objectives.

Insofar as this option pertains to supply, it overlaps to a great extent with Option No. 5, that of creating a Federal oil and gas corporation to engage in international petroleum arrangements. As a matter of practical administration, a consuming government might seek to negotiate and perform bilateral arrangements through a governmentally owned oil corporation, much for the same reason that some producer governments choose to deal with foreign purchasers through a national petroleum company. In terms of analysis, the fact that a government chooses to act through a governmentally owned company rather than directly would not appear to materially alter either the benefits or problems which are identified in this section as associated with governmental negotiations.

The first objective often sought through a bilateral agreement with a producer government is the securing of particular sources of petroleum supplies. Such agreements have been an appealing option to consumer nations worried about possible shortfalls, particularly those highly dependent upon foreign imports. One of the major bilateral agreements to be negotiated to accomplish security of supply was the French agreement with Iraq under which CFP was permitted to retain for ten years its 23.75% share of the former production of IPC, which Iraq had nationalized in 1972. In addition to guaranteeing a substantial quantity of Iraqi crude for the French market, the agreement also provided for a reasonably favorable price. The Iraqi Government has, however, recently indicated that the price is to be readjusted to a level generally comparable to the high prices of "buy-back" crude in the Persian Gulf. More recently, CFP has begun to renegotiate a June, 1971 supply contract with Algeria. It is estimated that the renewal of this agreement, together with another negotiated by Elf-ERAP, will bring approximately 13 million tons of Algerian crude to France in 1975. Although the exact price which the French firms are paying is unknown, it is generally speculated that the price is somewhat less than the $12.50 per barrel which third parties are now paying for Algerian crude.

ENI, the Italian national oil company has also been seeking long-term supply contracts from a number of Middle Eastern countries, including Iran, Saudi Arabia and Abu Dhabi. Similarly, during the embargo, the United Kingdom entered into short-term contracts with producer governments to directly purchase petroleum supplies. In such instances, the consuming nation government has typically paid a premium for the greater security of a direct purchase in the form of either a higher price for the petroleum or by making payment in scarce goods. In terms of price, therefore, such bilateral arrangements have not been attractive. Moreover, even if the market goes up and the price becomes a good one, there is no certainty that the producer government will permit them to enjoy the benefit of their bargain.

In terms of reliability, it is also questionable whether such arrangements are more secure. The nationalization of BP's concession in Libya and of Elf-ERAPS concession in Algeria certainly indicates that at least some producing nations are not overly impressed by the presence of consumer nation governments. The security of a government-to-government agreement depends fundamentally upon the continued friendly relations between the countries involved. When such relations are poor, the presence of the consumer government will tend, if anything, to reduce security by inviting the producer government to register its disapproval of the consumer government's policies by dishonoring agreements with it. This is a factor which should be thoroughly considered before a consuming nation with as high a political profile as the United States enters into bilateral arrangements in the interest of greater security.

On the other hand, while government-to-government transactions probably have limited utility in dealing with the normal sources of supply, the ability of a government to deal directly in petroleum could be advantageous, particularly if selectively used in a tactical sense to counter certain company or producer country policies. Serious consideration should be given to granting the Federal agency that would have regulatory responsibilities under Option No. 5 the power to enter into short or long-term supply contracts where appropriate and consistent with identified policy objectives. It could be that the mere existence of this power would have both a beneficial impact upon the posture of the companies and the producer governments in making international supply arrangements. For instance, on a specific basis, this power night be used to negotiate on behalf of U.S. companies where they are unfairly disadvantaged. Alternatively, this power could be used to test whether or not company negotiations are in fact being conducted in a fashion consistent with U.S. interests. Finally, it would allow the U.S. Government to avail itself of negotiating targets of opportunity not available to private companies.

A second objective which is often pursued by means of bilateral arrangements is the cultivation of "special relationships" with producers. A good example of this type of agreement is the Joint Statement on Cooperation recently announced by the United States and Saudi Arabia. The Statement provides that among other things, the United States will assist Saudi Arabia in its economic development programs by joining in the establishing of a Joint Commission on Economic Cooperation and will survey and make recommendations on the modernization of the Saudi Arabian armed forces. Similar arrangements have been made between Iran and Germany for a joint development commission.

This type of arrangement is not in reality an agreement but simply a means of establishing or maintaining relations between producer and consumer countries that will present economic benefits to both. To the consumer country it affords an opportunity to support production and supply practices of the producer country which it deems beneficial and also to redress balance of payments problems through the sale of goods and services to the producer country. In addition, to the extent that these elements create stability in the area involved and bring about a more thorough understanding of common issues and problems, such factors also contribute to the national security of the United States.

Such arrangements provide to the producer country, equally, an opportunity to maintain contacts with important consumer governments and acquire goods and services, particularly military equipment, on advantageous terms. Thus, while this type of arrangement typically does not deal directly with petroleum supply, it nevertheless may have a very positive impact upon a number of issues relevant to producer-consumer country relations, including petroleum supply. Such arrangements could not be expected, however, to have any beneficial effect upon the Middle East political situation.

A similar philosophy seems to lie behind the recent U.S.-U.S.S.R. Agreement on Cooperation in the Field of Energy. This agreement, signed on June 28, 1974, establishes a formal "umbrella" under which the two countries can conduct and expand their scientific and technical cooperation on energy matters. This arrangement, while termed an "agreement," is again purely voluntary, here to establish the future basis for purely cooperative action. Again, however, it could serve to have a positive overall impact on basic energy matters. A number of the U.S. companies have shown interest in Soviet oil and gas projects and have met with a favorable response by Soviet officials. In constituting part of the detente in which the United States and the Soviet Union are engaged, the agreement, of course, implements the U.S. policy objective of national security.

The "special relationship" type of arrangement appears to be more a part of the process of maintaining viable relations between producer and consumer countries. While it does have the result of emphasizing the goods and services of the consumer country in the context of the producer country's purchasing ability, such arrangements do not appear to encourage unhealthy competition among consumer nations. They are quite low cost and can result in considerable benefits to both producer and consumer nations. It is quite likely that this type of arrangement will be intricately involved in the more broadly based consumer-producer negotiations discussed as Option No. 9.

A third objective which may be accomplished through bilateral arrangements with producers is some relief from the severe impact which current petroleum prices have had on many consuming nations' balance of payments. Recent price increases have quadrupled what consumers must now pay for imported petroleum, and for many of them with a high dependence upon imported energy, the effect has been a flow of billions of dollars into the treasuries of producer countries. With their foreign exchange assets badly depleted, many consuming countries have turned to bilateral agreements as a way of stimulating the purchase of their goods by producers and thus retrieving petrodollars which will be needed to pay future oil bills.

The recent French agreement with Iran is a good example of this type of bilateral agreement. In June of 1974, the two countries signed a $4 billion development agreement pursuant to which the Iranians will purchase from France an assortment of technological goods and services, including five nuclear reactors. In partial payment of the purchase price, Iran has agreed to make an advance deposit of $1 billion into the Bank of France. This arrangement will provide badly needed hard currency for France's acute balance of payments situation. The agreement does not guarantee France any specific supply of crude, but it does state that France will be given "consideration" if additional crude supplies become available to the Iranian Government. In this respect, the agreement reflects the reality that, in today's situation of excess capacity, the problem is not securing supplies but getting the hard currency to pay for them.

In another bilateral agreement, France has recently contracted with Saudi Arabia to sell $800 million worth of military equipment. It may also be anticipated that substantial purchases by the Saudis of U.S. arms and other goods and services will come out of the U.S. "special relationship."

While these agreements respond to the desire of consuming nations to sell their goods and obtain hard currency needed to pay oil bills, there is a danger that as

the impact of high prices on these nations intensifies, there will be increasing competition among them to sell their goods and services. In this respect they are quite different from the "special relationship" type of arrangement discussed above. Bilateral arrangements aimed at rectifying balance of payments problems have a devisive potential for encouraging the sort of "begger they neighbor" policies among consumers which could prove to be costly to all. Nevertheless, bilateral agreements are not to be presumptively disfavored. Some have provided remedy for temporary balance of payments problems. In the long term, however, another solution must be found—either in lower prices or through a mechanism for recycling—or the pressure toward an unacceptable kind of competition among consumers will mount.

A fourth and as yet theoretical reason for entering into bilateral agreements would be a situation in which one or more producing governments indicated a strong preference for dealing directly with consumer governments rather than with private companies. Such a preference might arise from an ideological distaste of private enterprise or, more likely, a desire to deal with purchasers who can pay for petroleum in arms or other goods and services which cannot readily be provided by petroleum companies. Some countries, such as Iraq and Venezuela, have indicated such a preference for direct deals, but in no case has the preference become so strong as to approach a blanket refusal to deal with companies. This being so, there is no reason for consuming nations to pursue such arrangements in the absence of other advantages.

There are, then, three basic objectives which may be sought by use of bilateral arrangements with producer countries: (1) greater security of supply, (2) development of "special relationships," and (3) improvement of the consuming nations' balance of payments.

A review of past and current bilateral agreements indicates that they may not be any more secure than agreements entered into by private companies. While consumer governments may have a degree of economic and political leverage not possessed by the companies, recent history seems to demonstrate that producer governments have few qualms about unilaterally altering the terms of their agreements with them. Further, the terms of the arrangements made by consumer governments appear to have been less advantageous than those customarily made by the companies.

Bilateral arrangements which establish "special relationships" between producer and consumer countries and which do not contain substantive provisions regarding supply, price or specified monetary considerations appear to achieve worthwhile purposes and should probably be encouraged. The working relationships which are sometimes created in this type of arrangement could be very useful in assisting in the elimination of the confrontation which today exists between producers and consumers.

8. *Establishment of an international organization to coordinate national petroleum policy with other importing countries*

Probably the most important international forum in which the United States has in the past attempted to deal with international issues relating to petroleum is the Organization for Economic Cooperation and Development ("OECD"), headquartered in Paris. Its membership consists of the developed nations of Western Europe, North America, Japan and Australia.

The OECD has long been active in the study and multilateral consideration of energy problems. This work has been done primarily through various energy-related committees within OECD; the Oil Committee, the Energy Committee, the Environment Committee, the Committee for Scientific and Technological Policy and the Nuclear Energy Agency. The Oil Committee regularly keeps the oil policies of member countries under review and studies supply and demand prospects for the OECD areas. It is also responsible for the regular monitoring of the OECD stockpiling program, originally set up as a consequence of the 1956 Suez Crisis.

Because of major disagreements among leading members, however, and the unanimity rule of the Council, the OECD did not adopt internationally coordinated oil policies in response to the 1973–74 oil embargo. The U.S., therefore, promoted negotiations among a smaller group (the Energy Coordinating Group, "ECG") beginning in February, 1974, looking toward the establishment of a permanent or ad hoc organization to coordinate the national petroleum policies of as many important petroleum importing countries as possible. Ultimately, plans for a new organization, the International Energy Agency ("IEA") were

adopted in Brussels on September 21, 1974, by representatives of twelve nations which consume approximately 80 percent of the world's petroleum supply: the United States, Japan, Canada, the United Kingdom, the Federal Republic of Germany, Belgium, the Netherlands, Luxembourg, Italy, Ireland, Denmark, and Norway.

The Brussels plan, entitled "Agreement on an International Energy Program," applied provisionally to all signatories as of November 18, 1974, and is slated to come into final force upon acceptance, on or before May 1, 1975, by six nations, accounting for at least 60% of the weighted votes. By November 18, it appeared that of the twelve original members of the ECG, only Norway would not sign the Agreement. Presently, sixteen nations have become provisional members: all of the other ECG nations, together with Spain, Sweden, Switzerland, Turkey and Austria.

The Agreement provides a mechanism by which the participating countries can spread among themselves the burden of a shortfall in supplies affecting an individual nation which is selectively embargoed or subjected to any temporary supply interruption. The plan provides that whenever any signatory country has its base period total petroleum and product supplies reduced by more than seven percent, oil sharing measures will automatically come into operation. The affected country would receive an allocation right equal to the reduction of total energy consumption in excess of seven percent, and the deficiency would be made up by other countries proportionate to their respective consumption levels. Each nation is required to maintain a 60-day (to be increased to 90 day) supply of petroleum reserves and to have a plan for reducing its oil consumption in the event of a supply emergency. Each participating country is further required to prepare and have ready "at all times" a program of "contingent oil demand restraining measures" enabling it to reduce consumption by an amount equal to seven percent of its consumption over the latest reported four quarters.

The IEA is to be run by a Governing Board of ministerial-level representatives from each participating country. Decisions are made by vote of members according to a weighted voting scheme under which each country receives three "general votes" plus a share of 100 "oil votes" weighted according to the country's oil consumption. The United States, under this system has about one-third of the total votes, assuming membership of only the sixteen present provisional members.

The plan is designed to promote quick decisions by the members in questions arising in an oil emergency. Once a participating country's supplies have fallen more than seven percent below its average daily rate of consumption, the automatic oil-sharing provisions can be stopped only by a vote of ten countries. If the Secretariat of the IEA makes a finding that an oil emergency has occurred or is about to occur, the Management Committee and Governing Board are required to meet promptly to devise means of dealing with it. Various provisions of the Agreement specify actions that must be taken by these bodies within 48 or 72 hours.

Besides the oil emergency provisions of the Agreement, there are others designed to promote the international coordination of long-term energy policies to reduce dependence on imported oil. A Standing Group on Long Term Cooperation, one of four such standing groups, has been created and is required to report to the Management Committee on possible cooperative actions in four major areas: conservation of energy; development of alternative sources of energy; energy research and development; and uranium enrichment. The Management Committee, in turn, will review these reports and recommend proposals to the Governing Board, which must decide on these proposals by July 1, 1975. The Agreement is for a term of ten years and thereafter until a majority of the IEA Governing Board agrees on its termination. Any country may terminate its participation upon one year's notice.

U.S. policy within the IEA has both a short-term and long-term dimension: the short-term emergency oil sharing plan and the promotion of long-term international cooperation. The long-term policy would involve international coordination to limit aggregate consumption and perhaps even the coordination of members' negotiations with OPEC.

One of the problems to emerge in the course of negotiations for the oil sharing plan was that in order for the participating countries to be able to rely on the plan and for it to be credible to producers, the operation of the oil-sharing measures must be essentially automatic. This means that the ability to respond

flexibly to particular supply interruptions must be sacrificed. If a sudden supply interruption is merely the signal for the participating countries to begin negotiations on appropriate countermeasures, the plan itself has little or no significance either to consumers or exporters. On the other hand, as some critics of the plan have pointed out, the automatic feature of the plan could have the effect of forcing the parties to the Agreement to support one of their number in a confrontation with producing countries over an issue of little or no importance to the rest. The principal concern of these critics is American foreign policy in the Middle East. While other members may have no stake in such U.S. policy, they at least may derive some security from the oil-sharing plan. Austria, Sweden and Switzerland have indicated, however, that they would withdraw or suspend their participation if IEA actions should conflict with their "neutrality." The very existence of the plan, it can be argued, may well serve the interests of all IEA members by making the results of an embargo more difficult to predict, and possibly more costly to some or all of the countries participating in the embargo.

For the companies, the activation of the oil-sharing plan could create severe problems. Producer countries could order them not to distribute their oil according to IEA directives, demanding, for instance, a certificate of final destination for all oil shipments from their ports. There is also the possibility of a conflict between the directives of IEA members and those of non-member importing countries. In such a situation, the companies could face loss of production, loss of markets or nationalization of their assets in either producing or consuming nations. Accordingly, oil company questionnaire respondents expressed mixed opinions as to the desirability of such an oil-sharing plan. The larger, multinational firms, however, generally endorsed an internationally sanctioned emergency sharing plan, as long as they would not be saddled with paying the extraordinary costs which its implementation might entail.

The most important nonparticipant in the Agreement is France. France may feel reasonably confident, in light of past experience, that it will not be the direct target of another selective embargo occasioned by a Middle Eastern crisis. France has also shown an ability to obtain supply commitments through bilateral deals with producing countries.

France is more oil import dependent than either West Germany or Britain and is very vulnerable to the impact of high prices. High prices caused the French to reduce drastically the volume of crude oil purchases it had hoped to make from the U.S.S.R. in 1974. France suffered a record trade deficit of more than 3 billion francs (U.S. $670 million) in July, 1974, and in September imposed a ceiling on the aggregate payments for imported oil which will be allowable in 1975. Consequently, France has a strong interest in promoting any collective consumer action that might reduce oil prices or slow their increase, and its refusal to join the IEA may only reflect the present Administration's reluctance to divert from the policy of a previous Administration.

The emergency oil-sharing plan, besides functioning to assure equal distribution of any shortfall, is also intended to dampen price increases when a shortage exists or is threatened. The plan eliminates the need and the incentive for countries to board and bid supplies away from one another, which behavior in the shortages of 1973–74 aggravated the upward pressure on prices. Because the plan can thus mitigate the short run impact of supply interruptions on the international financial system as well as on the balance of payments of individual countries, all members (and non-members as well) benefit from coordinated allocations. The effect of the plan in time of shortage is very similar to that of a buyers' cartel for most of the world oil market.

For both the IEA members and the French, then, there is an important link between the oil-sharing plan and long-term coordinated demand limitation or reduction. The crucial question raised by the creation of the IEA, or any similar organization, therefore, is whether and under what conditions such internationally coordinated policies can achieve their ultimate objective—to limit the impact of an interruption of supply on the international system of trade and finance.

A successful long-term plan for international limitation of aggregate oil consumption would tend to limit payments to OPEC nations in two ways: first, a reduction in the quantities of oil consumed would reduce the aggregate amount paid for oil; second, it could eventually put downward pressure on the price, hopefully leading both to lower unit prices as well as fewer units consumed. For reasons which have been discussed earlier, it is very unlikely that a coordinated

demand reduction policy will create significant downward pressure on world oil prices in the short term. Whether producing countries take a short-run or long-run view of the oil markets, there is little evidence to suggest that they will significantly reduce prices unless much greater oil surpluses develop than can currently be anticipated. Such surpluses would have to be of a far greater magnitude than demand reduction policies of consuming nations could presently be expected to create.

As a price reducing strategy, then, internationally coordinated reductions in aggregate demand must take second place in importance to the development of reasonably priced substitute energy sources. Internationally coordinated demand reduction is important chiefly as a means of reducing balance of payments deficits before they accumulate to the point of a dramatic international credit crisis. Substantial reductions in demand for OPEC oil, however, sufficient to create significant downward pressure on the price of that oil, are likely only where reasonably priced substitute energy sources are available. Producing countries understand this well.

Support for the IEA and the Agreement which created it is an important element of our national energy policy. Given the IEA, it may be anticipated that any broader group or organization, would concern itself primarily with the problems of the less developed countries, and whatever policies were formed or implemented would have relatively little impact either on the world oil market or the international economy of the industrialized nations.

The information gathering functions of the IEA or any similar international organization could create problems in the handling of sensitive proprietary information. For example, the companies indicate that data on new exploration and reserves, if made public, could harm them competitively but appear less concerned about data on long-established reserves and downstream operations. Article 33 of the Agreement calls for members to make available to the organization information regarding:

(a) consumption and supply;
(b) demand restraint measures;
(c) levels of emergency supplies;
(d) availability and utilization of transportation facilities;
(e) current and projected levels of international supply and demand; and
(f) other subjects as decided by the Governing Board, acting by unanimity.

Information would be gathered through the national authority of the respective members. In theory, no serious problem need exist with these categories of information. In practice, it may be doubted whether the U.S. Government now has the capacity to evaluate and monitor the completeness and accuracy of the information provided by the companies in these areas. Such capacity did not exist during the 1973–74 embargo.

There may be some danger that information of this type would be made available to competitor companies. On the other hand, possibly more sensitive data on exploration and new reserves appear outside the scope of these categories, and the unanimity rule under (f) above would give the U.S. veto power over any possible information "fishing expedition" aimed at U.S. companies. It must be acknowledged, however, that any data so exchanged could not be expected to remain unavailable to foreign competitor companies and might also be used by foreign consumer countries to regulate the companies' operations there.

The IEA has made it clear that there will be extensive and continuing consultation and cooperation with the oil companies. Thus, industry working groups have recently met in both London (under BP) and New York (under Exxon) to make recommendations on data collection requirements. The emergency sharing plan equally envisages a close working relationship between IEA and the oil companies. In addition, Article 37 of the Agreement requires that the IEA Standing Group on the Oil Market establish "a permanent framework for consultation" with the industry.

9. Establishment of multilateral negotiations between producing and consuming countries

As noted at the outset, an ongoing state of confrontation between producer and consumer nations exist. The companies do not act as a political buffer in the confrontation; they merely serve as linkage. The situation is difficult. Modern trade and the fiscal system have begun to suffer seriously because of the strains and imbalances placed upon them. In an effort to recycle petrodollars and to offset balance of trade deficits many consumer countries which are not an attrac-

tive opportunity for foreign investment have been forced into massive borrowing, reborrowing and an export race which do little more than keep them just ahead of the juggernaut. The more affluent of the consumer countries are attractive souurces of investment for petrodollars and do not have severe balance of payment problems. Their resources, too, are being taxed, however, because of their efforts to assist the weaker of the consumer nations in providing sufficient resources for them to purchase adequate petroleum supplies. They are thus confronted with the dilemma of being asked to loan increasingly greater funds to countries which are increasingly less able to repay them.

The current status.—In almost all consuming nations, effect of this financial flow has been to seriously slow economic activity, exhaust foreign exchange resources and increase government borrowing. If future oil bills are to be paid, substantial additional loans will have to be made to many nations or a fundamental economic realignment in the world must occur. The foreign exchange to make such loans is available in the massive surplus petrodollars flowing back into consuming nations. Unfortunately, the investment dollars flow to consuming nations according to their attractiveness as sellers of manufactured goods and investments. Thus the United States will receive a much greater percentage of the the petrodollars than nations, such as Italy, which are not as attractive for investments and which cannot compete in sales. The problem, then, is to recycle the money flowing to the United States and other investment centers back to the needy consuming countries. More important yet, these petrodollars must eventually be channeled to longer term and more stable investments.

The International Monetary Fund ("IMF") and some of the more affluent consuming nations have already taken steps to channel currency into the more hard-hit consuming nations. The amounts which will have to be paid over the next five years are astronomical, however, and there is a growing awareness that the nations to whom these loans will be made available are unlikely ever to repay them.

A growing number of observers are coming to the belief that consumer nations will not have the resources available to solve these problems without the cooperation of the key producer nations, particuarly Saudi Arabia, in either lowering prices or making other financial arrangements. There is a real danger of a financial breakdown on an international scale. The U.S. has to date been unable to deal effectively with this situation. The assertions by high ranking U.S. officials that prices will fall has only succeeded in lulling many consumers into believing that the problem will disappear or be minimized in due course. A year of intensive interaction and repeated visits by cabinet-level American officials to Saudi Arabia, in the attempt to use that country to influence OPEC pricing, has yet to bear fruit. Various plans, sponsored by the United States and other consuming nations, to ease the fiscal impact of high prices upon the less affluent consuming nations having all been attempts to live with the problem rather than solve it. The solution requires the cooperation of producing nations, yet these nations have not only shown little interest in assisting but have actually continued to aggravate the situation by further increases in price.

It cannot be known at present to what extent producing nations will be willing to accommodate consumers, but it is clear that they probably will not render assistance or agree to significant compromise in the current situation. A multilateral dialogue, if properly structured, may provide a vehicle through which visibility could be lowered and producer country cooperation secured. It is quite clear that the successful resolution of the Israeli-Arab dispute will be a prerequisite to the success of any such discussions. This element must be considered in the evaluation of any producer-consumer country discussions, particularly with respect to the key Arab states and now also with respect to Iran which recently announced its intention to support the Arab position in any future conflict with Israel. Resolution of this difficult issue would, however, not guarantee the success of producer-consumer discussions.

The major risk for consumers of entering into negotiations with producers is that they will be able to capitalize on consumer disunity to obtain the support of weaker consumers for measures which may be unacceptably costly to more affluent consumers, such as the U.S. This lack of solidarity among consumers has been a major concern for the United States since the recent embargo. In an effort to correct it, the U.S. made a concerted effort to bring consumers together, beginning at the Washington Energy Conference and culminating a half a year later in Brussels with the International Energy Program ("IEP"). Although the IEP

allocation of supply provisions are an important safeguard for the western economy, they still fall short of a comprehensive agreement among consumers on a number of issue. Although there are many strategies which consumers could pursue, none of them promises any immediate relief from the power which producers presently have as a result of their control over much of the world's energy. Consumers may pursue vigorous policies of conservation which may partially mitigate the balance of payments effects of current levels of price. Such programs, however, are limited by their substantial cost in terms of employment and gross national product associated with reduced energy consumption. More importantly however, as a source of bargaining leverage in negotiations with producers, conservation has very little short-term utility since most producing countries can cut back on production and suffer less economic impact due to the loss of revenues than consuming nations will feel due to the loss of the petroleum. They may in fact lose no revenues if they increase price, as many have done during the past year.

Nor do consumer nations derive any real leverage from their status as the predominant source of food, manufactured goods, arms or technological and managerial services. Most of the major oil exporters do not import large quantities of food and a cartel for manufactured goods is not practicable. Even if it were, producers could last much longer without imports of manufactured goods than consumers could without petroleum.

Another possible bargaining tool for consumers is their control over most of the investment opportunities which producers will increasingly need for revenues received in excess of their current absorptive capacity. Surplus revenues will continue to pile up in Arab producing countries for the foreseeable future. Even the countries with high absorptive capacity for internal development, such as Iran and Venezuela, will experience short-term surpluses. If investment opportunities are not made available to such producers, they will reduce production. Petroleum in the ground is an available alternative for producers, but its effects upon consuming nations, who would have to endure the shortfall in supply, would be severe.

The prospect of massive investment in the U.S. and other consuming economies by foreign governments and companies controlled thereby is a foreboding one for some. The economic power created by such investment will not necessarily be exercised solely in accordance with commercial considerations. Nevertheless, realistic governmental regulation should be able to provide transparency and put appropriate limitations upon the use of this economic power. Some even argue that as producers become increasingly involved in the well-being of the western economies, the risk of embargoes and massive price increases will decline. This point remains to be established.

Producers are concerned that their oil revenues will be eaten up by worldwide inflation, and it could be that agreement to the indexing of petroleum prices with other resources, goods and services would be a concession for which producers might be willing to make a price adjustment. Consumers, however, are properly apprehensive about indexation of petroleum prices at any, and especially at current, levels. The price is already excessive and to tie it to the price of other commodities and finished goods, many of which require significant usage of energy in processing or manufacturing, would exaggerate the spiral of present world inflation. On the other hand, if indexation is viewed as a vehicle for a process of negotiation, rather than a rigid maintenance of price regardless of other considerations, consumers may be willing to give it more careful consideration.

In the last analysis, it is clear that consuming nations are not in a strong position vis-a-vis producers whether or not they are involved in broad-based discussions with them. Everything which producing nations want or need, they seem able to take unilaterally or coerce from consumers by the use of their ultimate weapon, cutting back exports.

With consumer nation conservation and development of alternative sources, this one-sided situation may be expected to right itself in five or ten years, but in the short term, consumer nations will have difficulty in securing substantial concessions.

The spectre of world depression and its resulting political consequences possiply inhibit the exercise of power by OPEC. The more unstable of the major consuming nations cannot fail without the great likelihood of touching off a progression which could damage even the strongest. With the anticipation of $100 billion or more invested in the assets, securities and currency of these

countries, producers must expect that the injury visited upon these economies will inevitably return to them. The political consequences of economic disintegration should also be of deep concern to producers. The collapse of NATO or the rise of extreme governments in Europe would inevitably affect the stability of the Mediterranean and the Persian Gulf. The possibility of military confrontation increases with the progressive deterioration of developed consumer nation economies.

Organizational format.—Notwithstanding the risks associated with inadequate consumer unity and relative weakness of bargaining position, a multilateral dialogue with producers is still a promising approach to the current political and economic problems facing consuming nations. Perhaps the most desirable forum is an institutionalized one that may continue the dialogue for many years. It would be multifaceted and capable of accommodating a complex system of subgroups, working committees and bilateral negotiations as well as providing a forum for the multidate of issues which inevitably will arise. It is clear that while OPEC members prize their solidarity highly on petroleum matters, they consider their national interests foremost in trade and development issues. Thus, predictably the discussions will need to take place on bilateral, regional and subregional bases depending upon the interests of states involved. The concurrent negotiation of all of these issues will also create a lower visibility and hopefully diminish the confrontation between producers and consumers.

Such a diffuse process is essential if the plethora of interests among and between producers, companies and consumers are all to be adequately addressed. What is needed, then, is not so much a "solution" but a "process" in which the terms of reference are sufficiently numerous and encompassing as to accommodate the various interests involved.

In determining the type of format which will best suit such a process, the General Agreement on Trade and Tariffs ("GATT") presents perhaps a very useful precedent. The GATT is an agreement among 83 countries, conceived in a series of international conferences held between 1946 and 1948. These conferences intended to create a permanent body known as the International Trade Organization ("ITO") which would have worked to promote international economic cooperation and free trade. The draft of the ITO Charter was completed in August of 1947 and the GATT itself in October of the same year. Disagreement, however, persisted for two years thereafter over the text of the ITO Charter and in December of 1950, the U.S. Government sealed its fate by announcing that it would not submit the ITO Charter to Congress for approval.

The drafters of the ITO Charter faced many complex problems, but one central conflict stands out—that between free trade and quantitative restrictions on imports to achieve full employment within a single country. The system of rules within the draft Charter failed to reconcile that conflict, but made the partisans of each side unwilling to be bound by those rules for fear of losing more than they would gain. Thus, ITO was alike unacceptable to American partisans of free trade and to British partisans of Imperial preference. GATT, which was conceived as purely a provisional arrangement, on the other hand, was less comprehensive. In essence, it incorporated the ITO chapter on "Commercial Policy," but omitted those on "Employment and Economic Activity," "Restrictive Business Practices," and Intergovernmental Commodity Agreements." While the GATT text proclaims the central value of free trade, no member is bound to reduce any tariffs, nor to refrain from raising any tariffs, unless and until it binds itself to do so. Finally, non-tariff barriers to trade have remained essentially outside the scope of GATT. This experience points up an important aspect of international organizations: very high political costs are often paid for agreement, even highly qualified agreement, on controversial issues and for an advanced degree of organizational structure, whose costs predictably will present major problems in terms of acceptability. Another ongoing example exists in the U.N. Conference on the Law of the Sea. By the same token the GATT experience points up the low cost and political acceptability of institutions which require essentially no relinquishment of sovereignty or even ratification. Such an institution by definition is imperfect and subject to unilateral interpretation. It is this very quality of imperfection and ambiguity, however, that suggests this as workable precedent in dealing with the many and fragmented issues which would be presented during producer-consumer discussions.

Although the ITO never materialized, the GATT has been fairly effective as a vehicle for the complex negotiation of multilateral tariff reductions. These

negotiations have occurred in the six "rounds," the most recent of which was the Kennedy Round during 1964–67. The rounds provide a continual process for readjustment and renegotiation of existing trade barriers by the members of the GATT. In addition to this continual process of negotiation, the GATT includes other functions such as the settlement of individual disputes and grievances. In a more general sense, it provides an ongoing dialogue in which the changing relationships among the different categories of trading nations can be continually reviewed.

Another advantage of a format like the GATT is that, within the context of a multilateral discussion, negotiations and grievances which are essentially of a bilateral nature can be dealt with. Any long-range instrument for the resolution of petroleum problems will also have to be able to accommodate the continuation of bilateral and regional negotiations reflecting other links among nations than simply the commonality of being petroleum producers or consumers. Such traditional relationships as those between the U.S. and Saudi Arabia, France and Algeria, as well as regional forums such as the Euro-Arab dialogue, will continue to play an important role and should properly be integrated into any viable multilateral negotiations.

Price is a very important issue to consumer nations but it cannot be made the focal point of producer-consumer discussions. There are numerous issues including, among others, access to supply, indexation, recycling of petrodollars, sanctity of contract and security of supply. There are also issues which, while not involving petroleum directly, are of concern to producer nations. These issues involve, among others, the availability and prices of manufactured goods and food. The total mass of this web of interrelated issues is so enormous as to defy any single manageable resolution. The only approach which can expect to handle problems of this magnitude and complexity is a system which can accommodate the entirety of the issues but "chip off" pieces and find solutions to these in smaller manageable packages. In accomplishing this, the producer-consumer dialogue can reasonably be expected to continue for a number of "rounds," spanning many years.

A final advantage of this type of format is that the confusion resulting from a large number of nations being brought together to discuss an equally large number of issues has a fortunate side effect in the degree of low political visibility which will be provided for the participants. In the obscure and complex trading off of interests which will generally progress as a joint cooperative effort to achieve common solutions, the identification of conflicts and, accordingly, great concessions or advances will be virtually impossible. With international petroleum as politicized as it is, no concessions will be forthcoming from producing nations unless they can be shown to be part of a more generalized understanding with the industrialized powers.

The resolution of the differences between producers and consumers will probably never be fully accomplished. A changing world will continually create new problems and issues, particularly as we move toward the interrelationships between the various resources of the producer and consumer nations. For this reason the search for a continuing "process," rather than a "solution," offers far greater prospects for stable relationships. A mini-conference, such as that currently proposed by Sheikh Yamani and French President Giscard D'Estaing, may serve the important function of beginning the dialogue. The GATT-type procedural mechanism could follow and move on to the important second step of adjusting and resolving specific ongoing issues.

The United Nations through the Economic and Social Council, its Committee on Natural Resources, its Committee on Trade and Development or another associated group might wish to take a broad-based interest in international petroleum supplies. It is also conceivable that a specialized committee or conference on world energy might be organized. It is likely, however, that this type of organization would be largely useful as a forum for this expression of views, particularly by the developing countries. Recent experiences in the United Nations, particularly with respect to the Conference on the Law of the Sea, point up the very severe limitations which it has in decision-making, particularly when affecting the economic status of developed countries.

The critical problem which exists today, then, is the highly visible and sensitive state of confrontation between producing and consuming nations. This atmosphere has resulted in the adoption of simplistic positions and impeded the achievement of any real progress toward accommodation of the varying interests. It has also precluded effective progress towards the resolution of the eco-

nomic problems created by current high prices which threaten even the more affluent of consuming nations. In their efforts to recycle petrodollars and thereby assist the more hard-pressed of their number, consumers are only buying time.

Achieving a solution is very difficult in light of the disunity among consumers, and their relative lack of bargaining leverage, even if fully united. Nevertheless, it will be difficult to find a solution without the participation of producers, and a multilateral dialogue should commence. Since the major purpose of the conference would be to institutionalize a producer-consumer dialogue and to reduce visibility through piecemeal consideration of various interrelated issues, the GATT type format appears to be a promising vehicle.

VI. POLICY IMPLICATIONS

Developments of the past four years have radically transformed the international petroleum system. In the past, our domestic petroleum market remained relatively insulated from international pressures; since 1970 foreign developments have come to dominate and profoundly affect the price and security of supplies of energy to the United States. U.S. dependence on imports has risen sharply, while the security and cost of those imports have increasingly been subjected to unilateral manipulation by foreign producer governments. The integration of the United States into the international energy market makes it essential that it develop for the first time a coherent and consistent international energy policy. That in turn cannot be divorced from the need for a comprehensive domestic energy policy which encompasses the need for conservation and accelerated development of alternate energy sources.

Traditionally, the U.S. Government, with a number of rather isolated and ad hoc exceptions, has relied upon U.S. oil companies to independently establish the terms of international supply arrangements. Until recently, this policy worked quite well. It encouraged these companies to acquire resources throughout the world and obtain preeminence in international petroleum affairs. Because of this policy, however, the U.S. Government developed little information or competence to monitor international petroleum transactions. Thus, when the Arab oil embargo struck in 1973, there was no Government agency capable of taking independent action to protect the national interest of the United States with respect to foreign supplies. The performance of the large U.S. multinational firms during the embargo, moreover, emphasized that the United States cannot rely upon those companies to favor its interests to the detriment of other major consuming nations. In large part, those companies are held hostage by the producer governments.

The issue thus is whether the U.S. Government should have a greater role in international petroleum affairs and, if so, what type of role. It is difficult to examine the issue without concluding that the existing incentives for the companies do not assure that their behavior will be consistent with the national interests of the United States. Accordingly, there appears to be a need for monitoring and for the establishment of a sufficient number of control points within the system to insure that the national interests are independently protected by the U.S. Government.

Any new role for the U.S. Government will probably draw on a variety of the options discussed in this Study. No single option could solve all of the international petroleum problems the nation faces today. Nor does any combination of these options offer a predictable solution. While this Study endorses no option, at the very least it would seem appropriate that the U.S. Government have access to relevant information regarding present and future significant international petroleum arrangements. It would also seem appropriate for the Federal Government to have the power to review and approve such transactions where they may affect significant aspects of the national interest.

Such massive power could admittedly be used in a fashion that would be detrimental to both the economic well-being of the U.S. companies and the country. This factor makes it important that any act creating the authority be drawn so as to minimize the possibility of abuse and to carefully define the standards for administrative action. It is readily apparent that under the circumstances an entity with the stature and independence of the Federal Reserve Board, for example, would be necessary.

The establishment of such a scheme of regulation would, of course, be largely domestic in its operation, but its potential benefit could be substantially enhanced by a number of initiatives that are international in thrust. Key among these is

the continuation and broadening of consumer country cooperation under the International Energy Program and the undertaking of broadly based consumer-producer nation discussions. Both of these concepts appear to be established U.S. policy and the analysis made in this Study has focused largely on the ways in which these approaches might be effective. The concept of bilateral supply arrangements is less promising, although it appears that agreements of this type have developed "special relationships" which may have utility.

Careful consideration should also be given to the possible benefits of establishing the authority within the Federal Government to enter into bilateral petroleum arrangements. Although it is questionable whether such authority should be employed on a routine basis, it may be advantageous to the national interest for it to exist. Finally, the concept of establishing an industry-wide association of companies from consumer countries to coordinate international supply arrangements deserves serious consideration. The consumer countries and their companies are required to deal with OPEC, a self-acknowledged cartel, and in the international area it would seem to serve no purpose for the U.S. to require the same competitive performance of the companies that is expected domestically as long as the interests of the American consumer are not prejudiced.

The potential utility of any or all of these initiatives is, however, subject to a major qualification. It is very unlikely that any effective progress can be made in dealing with the major producer countries until the ongoing Arab-Israeli dispute has been settled. That dispute continues to color petroleum policy in the Middle East and, therefore, the remainder of the world.

The Study has also examined a number of other concepts such as the removal of Federal incentives and disincentives, the regulation of the companies as public utilities, the establishment of a national system to limit imports and the creation of a petroleum corporation fully or partially owned by the Federal Government. In each case, the Study focused on the impact of these systems upon international petroleum affairs. It is questionable whether any of these options alone could have a positive effect upon the level of world prices under existing conditions. The public utility option would appear to risk a negative impact upon supply while the creation of a Federal oil corporation presents few attractive features.

The Study has examined the changing realities of international petroleum. This is a period of stress for both the consumer nations and their companies. Hopefully, the United States will provide the leadership to create conditions under which U.S. companies can effectively carry out their essential mission as world suppliers of petroleum. Hopefully, too, in the process a pattern of cooperation rather than confrontation can be created between the producer and consumer nations of the world.

Chairman KENNEDY. Mr. Akins, please.

STATEMENT OF JAMES E. AKINS, CONSULTANT, WASHINGTON, D. C., AND FORMER U.S. AMBASSADOR TO SAUDI ARABIA

Mr. AKINS. I don't have very many points of difference with the previous speakers, I suppose some will come out in the question period.

From the middle of the last century until well after the middle of this one, the United States was subjected to predictions of imminent shortages of hydrocarbons; predictions which always dissolved in the gluts of petroleum which regularly followed. The predictions which were made in the late 1960's were dismissed by the public with the same anti-Malthusian insouciance it showed to other prophets of doom.

There was less excuse for the academicians who preached that there was a quasi-infinity of oil in the world and we need have no worries; there was even less excuse for those in Government who had access to the facts. The facts were scarcely secret; petroleum consumption of the world was growing rapidly; we had used more oil in the 1960's than in the previous 100 years, including two World Wars and the

Korean war; United States production was peaking out; the rate of oil discovery was disappointing in most of the world and the world's reserves and consequently the world's dependence was focusing on one small area, the Persian Gulf, and notably the Arab States of the Arabian Peninsula for much of its needs. These were countries which did not need much income; our politics had not always met with their favor.

We were assured by our resident soothsayers that this was unimportant. These views may have been based on sound theoretical economics but their proponents understood nothing of international politics, and their view of the Arabs was racist: Arabs are only subhuman; they cannot think; these cannot cooperate; therefore a boycott is impossible. Again, the prophets can perhaps be excused their ignorance. Again it is difficult to excuse those in government who knew better, and yet listened to them.

Peter Flanigan, as you may know, asked me to come over to the White House after the election in 1972 and work on President Nixon's energy message. We drafted a tough one, at least we thought it was. In any case, the message ended in the hands of John Ehrlichman who thought that all energy problems could be solved by the marketplace, by giving economic incentives to increase domestic energy production. The section in our draft on conservation was removed entirely—"conservation was not part of the Republican ethic." The section on cooperation with the consumers in the OECD and with the OPEC producers was reduced to a single line, and only the section on increasing domestic production remained intact.

I have been accused of trying to take credit for the final report, but I call this a slander; it is the sole work of Ehrlichman and his merry men, and they deserve any credit that is to be given.

Some of us in the United States and the Secretariat of the EEC had talked for years about the necessity of forming a union of major oil consumers to work jointly on new energy research; to share energy in time of shortage, and to avoid a ruinous competition for oil in such times. Dupre Muir of the legal division of the State Department worked up a draft treaty which was circulated in the USG and discussed with several Europeans. The staff of the EEC, particularly Mr. Fernand Spaak; the British and to a lesser extent the Germans favored the idea in principle; and there was considerable support in the USG, but it was clearly an idea whose time had not yet come. The need for cooperative action was not yet perceived.

When Saudi Minister of Oil Yamani said in March, 1973 that if there were no change in the U.S.-Middle East policy, if there were no move toward peace, the Arabs might not be able to increase oil production to the point needed by the West, he was not believed.

King Faisal made a stronger statement in July and a senior official of the State Department dismissed this airily by noting that a boycott was scarcely feasible; but even if there were one, we could not be hurt he said, as we imported only 2 percent of our needs from the Arabs and we could make this up by turning valves in Venezuela and Canada.

As so frequently happens, it is not particularly important to be right, it is much more important to be comfortable; to tell your listen-

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ers what they want to hear. This has been characteristic of our energy policy—such as it is—for a decade. It has also played an important role in the conduct of our foreign policy—but that is another broader subject.

When the Middle East war came in October 1973, we responded with massive military and economic aid to Israel. This was perfectly predictable. It was also perfectly predictable that the Arabs would consider this a hostile act and would themselves respond with an oil embargo on the United States. But we seemed surprised; largely because we had listened and believed a series of tame economists and court jesters.

There was then a mad scramble for available oil and prices went from less than $3 to $24 a barrel in a few cases. We in the United States panicked; and that was also to be expected. We announced a hastily drawn plan for energy independence; no imports by 1983. We could, of course, if we wished, be independent tomorrow simply by banning imports; but our economy would collapse. Presumably that is not what we want, nor what we meant by energy independence.

"Independence" has been constantly redefined since. First it was 3 million barrels a day imports by 1983; then the same amount by 1985; then 5 million in 1985; and now it is 6 million in 1985. One Presidential candidate has said his goal would be to keep oil imports at the present levels, that is, 40 percent of consumption. This is admirable; it is even unique for its honesty and its practicality, but it is scarcely independence. To his credit, he did not hold it out to be such.

The economic and strategic problems of overdependence on imports is now rather widely recognized. How did we get where we are now? The search for villains began some time ago. The obvious ones are those who tempted us into the easy position of doing nothing; but that would be very difficult for we would then have to admit that we ourselves were fools for listening to them. No; we have to have other culprits. Fortunately there is one at hand: The oil industry.

Since the days of John D. Rockefeller, the industry has been considered a monster. To do this we, of course, will have to forget the series of warnings from the industry that shortages were coming; that we would soon have supply problems. We explain these statements away by saying that the oil companies merely wanted higher profits. But we have to go beyond that. We also have to forget that the industry supplied the world, and particularly the United States, with adequate supplies of oil through 1973 and at constantly declining prices.

This is not the time to examine the oil company profits, but they really have to be looked at in terms of total investment before obscene oil company profits enters our vocabulary permanently as a single word.

I do not mean to imply that the companies were always good, sound citizens of the countries where they worked, many in Europe and in OPEC would surely dispute that. But generally they have done a credible job, particularly for us in the United States.

Even during the 1973 Arab oil boycott, they frustrated its goals to a large extent. They have been criticized here for supinely agreeing to the decrees of the Arab countries not to ship oil to the United States. The only alternative would have been nationalization and we would

have had much less oil than we got. What the companies did do was to shift to the United States oil which would normally have gone from non-Arab producers to Europe and Japan. The burden was therefore shared more evenly in the world. That was not an action that was considered particularly admirable by Europe, by Japan, and particularly by OPEC.

In its dealings with OPEC the companies have been given the strong support of the United States Government almost always. They were permitted, even encouraged, to form a bloc in 1970–71 for dealing with the Libyan government, which was trying to pick them off one by one. That the so-called "safety net" was too weak was solely the fault of the companies; the U.S. Government was not consulted about its details. Undersecretary of State Irwin went to the Middle East in 1971 at the urging of the companies to put pressure on a few OPEC leaders to stop the escalation of prices. He was not able to do much more than to imply the displeasure of the United States, but that itself was an unusual step for the times. We were not prepared for any stronger pressure on the OPEC countries, and we still are not.

The only thing that I know we as a government were prepared to do recently to influence oil prices was to instruct me to try to persuade the Saudis that high oil prices caused great difficulties for the non-Communist world. Many countries were hurt by these high prices; only the radicals in the world were helped; and it was the Saudi's God-given responsibility to keep prices from rising further, or even, if they could, to bring about a decline of prices in constant terms. Now, the Saudis were pretty good about this; and they have been consistantly, since December of 1973. I don't know if other ambassadors were given such instructions, but I do know that only Saudi Arabia was responsive to our approaches.

The oil company role in supply and keeping prices low should have been, but apparently was not, appreciated in the consuming nations. It was well understood in the producing nations. OPEC was formed and greatly strengthened in order to eliminate the companies' role in both fields. The companies in the future will not play a significant role in setting oil prices—at least I don't think they will in the next few decades. And if there is any shifting of supplies in times of shortages—as there was in 1973 and 1974—it will be the International Energy Agency and not the companies which will do it.

I don't want to imply by any of this that the role of the oil company is finished—far from it; it will play a vital role in the discovery of oil, production, refining, and distribution of oil for a long time to come. The national oil companies in OPEC and in Europe, perhaps even in America may some day replace them—but I don't expect to see this happen before the end of the century. Accordingly, there will be continuing talks between the companies and the producing governments. The British, the Dutch, the French, through their national oil companies, or companies in which they have strong national interests, have access to information—total information. OPEC, of course, assumes that the United States has the same—but it doesn't. I think that we generally have gotten most of the pertinent information after the fact; we have gotten some of the information at the time it's happened; but very rarely have we received advance information of company planning. And we can never be sure how much we got. Others in

this country are quite convinced that we have gotten insufficient information, and I am not prepared to fight with them.

I would, therefore, propose that the problem could be handled by placing a U.S. Government member on the board of directors of every oil company operating abroad. This group of Government directors could then form a body in itself, it could serve to give direction to U.S. oil policy abroad. The U.S. directors in the company need not participate in negotiations with OPEC nations, but would at least be kept fully informed of everything that went on. If U.S. Government intervention were then desirable, at least we would have all the facts at hand. I have hesitated in making this suggestion because I fear it might lead to nationalization, a move I would consider disastrous from the point of view of our energy supply.

The only way I think that we can possibly increase our bargaining position vis-a-vis OPEC is to reduce our dependence on imported oil. This can be done in two ways, by increasing domestic production of hydrocarbons and energy from nonconventional sources, and by reducing consumption. We should not talk in terms of "confrontation" with OPEC—that is not the problem. The world is going to run out of conventional hydrocarbons some time soon, almost certainly before the end of the century. And if the world economy recovers and we revert to old growth patterns there could be serious petroleum shortages within 10 or 15 years—regardless of political restraints.

We should certainly move ahead with plans for 90-day storage, though it may be costly, there are variants by which the cost might be reduced. I think we should increase research and development for energy by about 20 percent per year for the next decade; and we should appoint a "blue-ribbon" committee of scientists to ensure that the old AEC obsession with nuclear fission has not been carried over into ERDA, and that sufficient funds are being devoted to fusion and solar energy. We should certainly open up Naval Petroleum Reserve No. 4 in Alaska for exploitation immediately. Perhaps, if we really think we have to have stand-by facilities, the companies could exploit the reserves there and keep 50 percent in stand-by. We should also increase leasing—although much is being done—on the Continental Shelf.

On the side of conservation we should apply rigid standards on the efficiency of energy-consuming devices; and we should give tax breaks for conversion to solar energy for heating purposes, and perhaps for other means. Most importantly, we must face the problem of gasoline. Nothing which ignores this problem can legitimately be called a "policy" or a "program". The only practical way I see us facing this is by steadily increasing tax on gasoline, until the tax reaches something of the order of $1 a gallon. This, I assume, would reverse the deplorable trend we are now seeing toward greater production of large, gas-wasting automobiles.

To reduce somewhat the regressive nature of the tax, a flat sum, a tax rebate of perhaps $200 to $250 could be given to each head of family, whether he used a car or not. The remaining Government income could be used for construction of strategic storage; for research and development on energy, and for subsidizing mass transit.

Our gasoline-eating large cars have always seemed to be "sacred cows". Yet I have added a sentence on the subject of gasoline conserva-

tion in most of the speeches on energy I have given in the last 6 or 7 years, and strangely, I have almost always received a sympathetic hearing. In other words, I don't believe that gasoline tax is beyond consideration, as some in Washington seem to believe it is.

On the negative side, I would hope that we would refrain from breaking up the oil industry into small units, restricted to one function. This would weaken their stand tremendously in dealing with OPEC, and if anything, would result in even higher oil prices. Remember that it was the small companies in 1973 which drove oil prices to over $20 a barrel in 1973–74.

If the size of the major oil companies is truly offensive to the American public, I would hope that anti-trust would aim toward smaller, but still integrated companies, each retaining the ability to compete and to survive. Most importantly, they should not be forbidden to engage in development of other energy sources. I don't think we want any of these companies to die, and I think we all know the companies' future lies outside conventional hydrocarbons. Knowing this, the companies have a strong incentive to find solutions which would benefit us all. Their motive—self preservation—would certainly be as good and as pressing as that of the scientists in ERDA.

I also urge that research not be limited to ERDA or to the companies, but that the International Energy Agency should be expanded, as was its original concept, to include a coordinated international research agency. Scientists in Germany, France, and the United States should not all be working on the same projects; and they should certainly share those aspects of the problem they have solved.

The whole energy problem is not hopeless, far from it. But it is serious and must be treated as such. There could well be another oil boycott, and its effects could be much worse than those in 1973 and 1974.

While I strongly urge that we take all possible measures domestically to increase domestic energy supplies, and conserve supplies, I would not advise a crash program that would result in degradation of the environment and a substantial decrease in standard of living. I don't think, first of all, it would bring us complete "independence" in time, and I do not think the American public would tolerate such a program.

In the short and medium run, therefore—and I mean in the next 10 to 20 years—the only means of assuring supplies of energy at reasonably stable prices is to assure that peace is maintained in the Middle East; I am equally convinced that this is possible. I base at least part of my optimism on the knowledge that the alternative would be intolerable—local war, oil boycott, wider war. I am, however absolutely convinced that the United States has it in its power to bring stability to the Middle East; peace on terms acceptable to both Arabs and Israelis.

We could expect full support of Europe and Japan, and much of Asia and Africa in such an effort; and we would have to insure at least the neutrality of the Soviet Union. But it can be done, and it will be done, I hope, without long studies, immediately after January 1977 when we have a secretary of state who is trusted by both Arabs and Israelis.

It would be highly desirable to do something before then, but it will be difficult, probably impossible. We can only pray that the distrust of us and of each other does not lead either Israel or the Arabs into taking some rash irrevocable move before we regain a position to act.

Chairman KENNEDY. Thank you very much, Mr. Akins, your prepared statement will be printed in the hearing record.

[The prepared statement of Mr. Akins follows:]

PREPARED STATEMENT OF JAMES E. AKINS

Predictions have been made regularly for the last hundred years about imminent shortages of hydrocarbons. Until 1960 all these predictions were wrong; new supplies were discovered in time, and the predicted shortages were converted into glut. In the late 1960's and early 1970's new predictions were made and they were even more depressing than those made earlier. In view of the past record, the public can be excused for taking the new predictions lightly. The academic community which studied the matter and the government, which to a great extent relied on these academicians, had no such excuse. The changes in the world economic and particularly the political conditions had introduced factors which had not even been considered earlier. The United States production was reaching its peak; World consumption of petroleum in the decade of the 1970's equaled that in the previous hundred years which had included two world wars and the Korean war. Projections for consumption and supply were made regularly by a variety of groups but each reached a distressing conclusion, i.e. that while there might be enough oil available in the world for the next few decades, it would all be concentrated in a few countries in the Persian Gulf region most of which had small populations and no pressing need for income; and our vulnerability to production restrictions was great and growing. Our traditional response was to commission yet another study with the hope that its conclusions would be encouraging.

Rather than accept the competent studies we preferred to listen to a few academicians and "consultants" whose economics may have been sound but who understood nothing of political reality. They assured us that there was a quasi-infinity of oil in the world; there could never be restraints on trade in oil and that oil prices would continue to decline. We believed this siren song because it was comfortable and because it required no action. Now that these academicians have been totally discredited one might hope that our first action resulting from the lessons of the shortages of 1973–74 and the oil price increases would be to start examining more carefully the record and the credibility of those who would guide our future course. Strangely, we do not seem to be doing so; in fact we still seem to be listening to some of the same sooth-sayers who now are frantically trying to find culprits who are responsible for their predictions having gone wrong and are proposing solutions almost as simplistic as the ones they gave us five years ago.

By the time of the October, 1973 Middle East war the United States was importing almost a quarter of its petroleum needs and a substantial portion of the imports came from states which subsequently imposed an oil embargo on the United States because of its extensive military and economic assistance to Israel. Our complacency was truly remarkable. As recently as August, 1973 a high State Department official said that he thought an oil embargo could not take place, but even if it did it would cause us no problem as we were importing, he said, only two percent of our consumption from the Arabs and we could make up any loss easily by opening the valves in Canada and Venezuela. When the boycott was imposed there was no immediate shortage; ships after all were under way. Even skittish Wall Street did not react for some time.

But this complacency was turned by the long lines in front of gas stations into something near panic; and the administration in a move of ignorance or cynicism announced that the United States would be independent in oil supplies by 1983; then it said 1985. "Independence" has been subsequently redefined to mean three million barrels/day imports in 1985, then five million; now it is six. This is not "independence" by any definition. One of our current Presidential candidates has said our goal should be to keep imports from rising above the current forty percent of consumption; its an honest goal and has the added attraction of perhaps being achievable. But it is not independence.

Unfortunately even today we find it difficult to accept the fact that our present difficulty in energy matters has been made worse by our own gullibility and our willingness to swallow the tasty but nutritionless pap fed to us by fools and charlatans; that nothing was wrong and nothing need be done. Perhaps the only adequate explanation lies in psychology for we now seem to be searching for new myths to give comfort and new soothsayers to give the excuse to avoid unpleasant conclusions and difficult proposals. Many Americans still believe that the oil shortages and the price increases of 1973–1974 were caused by the oil companies. Many of the "solutions" which are proposed to avoid future shortages are restrictive or even punitive measures to be taken against the oil industry. I do not intend to make any defense here of oil company profits as a proportion of their investment, but it should be done by this committee or some other one before "obscene oil company profits" enters the vocabulary as a single word.

The oil companies found oil; they produced it; they refined it and they brought it to the market in adequate quantities and at prices which declined in absolute terms through the 1950's and in constant dollars until the early 1970's. There can be no doubt that the remarkable economic advances of the post-war era was helped substantially by declining energy prices. The consumer was served very well by the "rapacious oil barons" (another unitized word) from the end of the first World War until the Arab-Israeli war of 1973. And even then the oil companies foiled the oil embargo in large part by shifting to the United States oil which would normally have gone to Europe and Japan, thereby equalizing the burden among all consumers. Europe, Japan and the Organization of Petroleum Exporting Countries (OPEC) were less than enchanted by this act of supporting their home country. The oil companies were not, however, acclaimed in the United States for this patriotic act jeopardized their holdings in both OPEC and the developed world.

It is unlikely that we will ever see the oil companies again acting as supranational authorities. The International Energy Agency (IEA) has been set up and if there is another reduction in oil supply, the IEA, not the companies, will order whatever shifting of supplies is made. The role of the companies in setting prices, which they did unilaterally until 1960 and to some extent until December, 1973 has also ended. Some oil companies may be able to get slightly better deals in one producing country but whatever benefit it would get would be small in terms of total oil prices.

The oil companies are interested in long term supply availability and perhaps even in lower prices, certainly they would like to have lower prices if their competitors were not to benefit from the same reductions. The companies, through their control of the down-stream operations might even, be able to have some marginal influence over the producer states. But the role of the companies compared with that of the producer governments and potentially that of the consumer governments is small. Should they attempt to use their down-stream refineries against the oil producer states, i.e. should they deny outlets for oil to a producing country, they would have to find immediately alternative sources of oil, and these are simply not available, at least not in secret. And if the company action becomes known, pressure of OPEC on the "scab" would be placed immediately. Such an exercise might be useful if it were given the full support of the consuming government; in fact it could not even be tried without consumer government aquiescence. Try to imagine an American company operating in Europe telling a producer state that it would not take oil at a certain price and then telling the European government that it was closing its refinery for lack of oil. Supplies have always been more important than price and the European government would act immediately to assure that oil were available from some source or it would take over the American firm—probably both.

Given the widespread suspicion of the companies and particularly the accusation of collusion between the companies and OPEC, it is clear that the United States government, along with the governments of other developed nations, must have complete access to all information on price and supply negotiations between the companies and OPEC. The British, French and Dutch already have this through their participation in their major oil companies. The United States has generally been given access, after the fact, to most information on most of the talks. But there have been delays and at times there has at least been the suspicion that all information had not been given.

The United States government has been strongly supportive of the companies in their dealings with OPEC, particularly since 1970. It allowed the com-

panies to work together, in possible violation of antitrust legislation, in the so-called London Policy Group set up to counter Libyan attempts to pick off the companies operating there, one by one. The United States Government took an unprecedented step to put political pressure on several of the OPEC oil producers in the winter of 1970–71 but it was not prepared to follow this through with any concrete measures—nor has it ever been prepared to do so. Europe and Japan were even less prepared for a confrontation with the oil producers than were we and should there have been any move by the United States companies to resist unilaterally the OPEC demands, they would have been nationalized and the Europeans and Japanese would have lined up to buy the "hot oil". At that time, 1970–71, we started talking informally with the Europeans and Japanese in the Organization for Economic Cooperation and Development (OECD) about the desirability of forming a consumer organization. There was some positive reaction, particularly form the EEC secretariat, but no government was willing to take the lead in pushing it. There was strong opposition in the United States as well. Those academicians now engaged in rewriting history on the basis of what should have been done, perhaps should spend more time on what was proposed and what was politically possible in the United States and in the rest of the OECD before the 1973 war.

It is difficult to see how the United States Government participation in future negotiations with OPEC would facilitate reaching decisions. Every move would be interpreted in a political context and every agreement would be called into question if there were ever any political disagreements between the United States and the producer. The United States, however, must be kept fully informed; it must know that it has accurate information immediately. Perhaps the only way this could be assured would be to have a U.S. representative on the board of every oil company operating abroad. If action were then taken which the United States Government considered unwarranted, it could urge the companies to alter their proposals. While this too might cause some political difficulties with the producer nations, the fact that the U.S. negotiator would be one removed from the scene would make our official role somewhat less provocative. It should be noted that it is universally assumed abroad that American company representatives keep their embassies fully informed on all their activities, much as do most companies of most foreign governments by refusing to tell U.S. officials of their actions and this reluctance to do so is by no means limited to oil companies—the only result is that the USG is kept in the dark, while the host government assumes the United States knows all. The companies get no credit from the foreign governments they are ostensibly protecting.

Long-term purchasing agreements for oil can give the consumer a sense of false security. No consumer should assume that if it takes action considered hostile by the producing country, oil will continue to flow without interruption. There was no long-term purchasing agreement between the United States and the Arabs but even had there been in 1973, the United States massive aid to Israel would have been considered more than adequate provocation for breaking the agreement. However, in absence of such extremity, producers can be expected to honor their contracts and I believe that with the exception of the Soviet Union, which did not honor agreements in Ghana, the producer governments have an excellent record of reliability. The supply agreements give almost no protection on price. All contain escalator clauses and if OPEC prices go up then prices on government-to-government contracts follow them. On the other hand it is difficult to pretend that such agreements would be inherently harmful to the consumer. The producing government, with only a few exceptions, are not actively searching for new markets. And they certainly will not reduce prices substantially to find them. A bilateral deal might make it marginally easier for the producer government to make development plans but this would not seem to be adequate reason to discourage consumers from entering into such arrangements.

Saudi Arabia's unique role in OPEC is beginning to be known here. Its actions in Vienna last fall and in Bali last week have been widely publicized. That it is supported only by the United Arab Emirates is also fairly well known. If the other governments of OPEC are going to be influenced to hold the line on prices, this will have to be done by governments—not by oil companies. It will have to be the United States first of all, but it must also be supported by the rest of the OECD. Perhaps nothing can be done in this field. It might even be argued that

nothing should be done; that prices have reached a reasonable level and that OPEC for the last year has been very restrained; that oil prices are still below the cost of alternative energy. But apart from Saudi Arabia we seem to have made very little effort, if in fact we have made any at all, to persuade the OPEC countries why prices should not be increased. I will leave to further testimony from others the accounts of what action we have taken in OPEC, but what is crystal clear is that these efforts (if any) were fruitless.

The oil companies, like the nation, can hope to have a positive effect on oil prices only if they can develop substantial sources of hydrocarbons in this country and can develop other sources of energy. If an oil company could develop oil from shale or coal at prices lower than imported oil, there seems to be no conceivable reason why it would not want to do so. If it could develop energy from non-conventional sources at a cost per energy unit lower than that of imported petroleum, then economic necessity would clearly move it in that direction. But until these resources and new energy forms are on the market there seems very little the companies or the government can do to reduce the price of imported oil. Another way of increasing the effective supply of energy would be through conservation. In fact, greater savings by these means could be made than will be possible at least in the next decade through increasing domestic oil and gas production. In other words, the most important thing we could do would be to start a strong and effective conservation program now.

It should be noted here that the cost of this alternative energy may never fall below the current cost of imported oil. If it is higher, or even if the hydrocarbon component is higher, then there will inevitably be an increase in foreign oil—regardless of hypothetical cost of production in the Middle East. I expect supply and demand for oil to remain more or less in balance for the next ten years. With luck, the production capacity for oil will remain comfortably above the demand through that period. I would also expect oil prices to remain more or less constant through that period plus or minus 10 percent—in constant 1975 dollars, of course. At the end of the decade I would expect prices to rise to within 15 percent of the cost of alternative energy, and this rise may come substantially sooner if the world economic recovery brings growth in energy consumption back to anything approaching the growth rates before 1973.

Three and a half years ago, the Saudi Minister of Petroleum, Ahmad Zaki Yamani, proposed substantial Arab investment in the down-stream operation of the oil industry in the United States. I said at the time that I strongly favored Arab investments in this country but I thought they should not limit themselves to the petroleum sector. The Minister said that oil was the subject the Saudis understood best and he thought that it should be the focus of Saudi investment. In the last two years there has been much less talk of OPEC down-stream investment. But as their capital accumulations have grown, particularly those of the countries of the Arabian peninsula, the producer governments have been forced to think more comprehensively about investing their money abroad. We in the west talk of the enormous income of the oil producers and we assume they are all very rich. This is not true. All the countries of the Middle East, excepting perhaps only Kuwait, are poor in all those things that make this country and Europe rich. They do not have the schools or the hospitals or the roads or the homes or the factories or the ports or the national parks or the concert halls which we have. They are in the process of acquiring some of them through expenditure of the wealth from their oil—an irreplacable asset. When it is gone they intend to have built an infrastructure and more importantly hope to have acquired the means of producing new wealth, through factories and banks at home and through investments abroad.

There has been much talk here about the dangers of Arab investment but this danger is so small as to be negligible. The advantage, from our point of view, is so great that I believe we must do all we can to encourage investment here, in Europe and elsewhere. For America, a country which has tried to convince the world for so long of the advantages of foreign investment, now to be talking of its dangers is strange indeed. It is particularly strange given the history of foreign investment in the United States.

There is a strong move toward conservation in many of the oil producing countries, particularly those with reserves which are large relative to the population. Libya and Kuwait have cut back oil production and there is a school of thought in Saudi Arabia that maintains that country is producing far too much oil; that it cannot absorb the income and therefore should reduce production

to meet its own demands. It is argued that the oil will always be available for sale in the future. King Faisal and Ahmad Zaki Yamani said in the spring of 1973 that Saudi Arabia might not be able to increase oil production to the levels needed by the world if there were not satisfactory progress made toward peace in the Middle East. As far as I know this basic position is unchanged. There have been no threats from the Saudi government to cut back production to achieve political gains but on the other hand there is no committment to increase the current limit on production. This will cause no problem in the short run as Saudi production is still several million barrels/day below the theoretical limit and several other countries in OPEC have spare capacity they would like to use. But it could become very bothersome in the future; perhaps in the next three years if the world economic recovery continues. But these were political conditions, and if restrictions are placed on Saudi (or other Arab) investment abroad and if they cannot absorb all their income at home (and in the short run I do not believe this will be possible), then I have no doubt that those Saudis who argue now for a no-growth policy or even for cuts in production for conservation reasons, will win.

They *must* win; for no country is so altruistic that it will produce its only resource only to be paid in money that cannot be spent or invested. Therefore, I strongly hope that the discussions we have heard in the U.S. Congress and elsewhere on limiting Arab investment will take a new and more encouraging tone; that we will stop consideration of laws to restrict further foreign investment but will take reasonable measures to encourage it; that at the very least there be a few ringing speeches on the floor of the Senate reconfirming our traditional position on foreign investment; saying that we need the new capital and will welcome it from all sources; that it would of course be subject to existing regulations (which are quite rigorous) but that the foreign investor need not expect the rules to be changed to his disadvantage.

Investments are not made to lose money; no OPEC oil producer would invest in a country to ruin it. And as for control of the facility in time of war or other crisis, we would have the assets in our country as we had the German factories during two world wars. The control of oil sources is a very real concern to us, but there is little we can do about that in the next ten or twenty years. The control of a factory or even a large segment of an industry in the United States would be much less a danger; in fact, it is difficult to see how it could be a danger at all.

OPEC prorationing, that is a division of the market among producers, has been discussed since the founding of the organization. No formula could ever be reached but then none was ever needed. Some OPEC countries have restricted production for conservation reasons; others are producing somewhat below capacity. But it is only Saudi Arabia which has continued a policy of massive increase in production capacity during a time of steady or declining sales. It is therefore only Saudi Arabia which could increase production to a point where OPEC itself could be destroyed. We must not allow ourselves to think that the current difficulties in OPEC will lead Saudi Arabia to contemplate such action.

It will not. Saudi Arabia is a founding member of OPEC and it will not bring about its fall. Nonetheless, it is at least conceivable that, in the context of a Middle East peace settlement, some proviso on reduced oil prices could be included. Saudi Foreign Minister Price Saud and Minister Yamani have both discussed this publicly. But all the non-Arab countries and most of the Arab countries of OPEC would be opposed. Saudi Arabia, given the strong political support of the Palestinians, the Syrian and the Egyptians, might just possibly stand up against the political pressure of the rest of OPEC if the stakes in a Middle East peace were high enough. But I would caution strongly against our counting on this.

The oil companies, by varying their liftings among the producers have shared the burdens of the surplus capacity rather evenly (excepting Saudi Arabia, Libya and Kuwait which do not wish production increases). To some observers in the West, this is sinister; the companies are alleged to be doing the work of OPEC which it could not do itself. The consumer, it is alleged further, is the only loser. It has been proposed that OPEC could be skewered nicely simply by having government of the OPEC take over all oil purchasing (through the IEA presumably) and then were to buy oil only from the *strongest* OPEC countries, i.e. Saudi Arabia and Abu Dhabi. Those financially pressed countries (i.e. Iran and Nigeria) would then have no choice but to cut back prices to get into the market and the disintegration of OPEC could be well underway. This could

not be done in secret and within days after the policy became evident OPEC would reach quick agreement on pro-rationing. I believe this is one of the few actions which would result in that particular OPEC counter-action but I have no doubt whatsoever that it would be done.

It must be remembered that the "strong" OPEC countries do not need more oil income and there is a strong movement in each of them already to cut production; they would simply not accept production increases at the expense of other OPEC countries particularly when it would be done by the consumers as an undisguished attempt to break the producer organization. Some time ago I was sent information on a process by which an American company allegedly could produce oil from shale for less than $1.50 a barrel. I was told I should take this up with the Saudis; it would frighten them into a drastic reduction of oil prices. I assume other Ambassadors in other OPEC countries got similar letters. I didn't do anything at the time with this bit of tomfoolery but some months later I raised it, in passing, with Minister Yamani. He congratulated me on this dramatic break-through and offered to buy a million barrels/day of the oil as soon as it came into production. Every country in OPEC with the exception of Saudi Arabia and Iraq, has a good idea of the size of its reserves and when they will be exhausted. All, again excepting Saudi Arabia and Iraq, must look to development of other energy sources quite soon. Even Saudi Arabia, with its enormous resources, is thinking of building an energy intensive industry now and then switching to solar energy when its oil is used up or is devoted to "higher" uses. There is no evidence whatsoever that any OPEC country would take action against a company or a government which tried to develop alternative energy resources.

They know that the world has only another twenty-five years supply of traditional hydrocarbons; by that time we will have to shift to coal or shale and to nuclear, solar and geothermal energy. They know, at least as well as we, that the lead times are long and that the world would be irresponsible if it were not to move now to try to develop new energy. While in Saudi Arabia I encouraged the Saudis to invest in solar energy, and while they have as yet put little money into research and development, they did finance a school in Reston, Virginia, heated and cooled by the sun. And they are talking about a major research program in Saudi Arabia and abroad. I hope these plans will soon be put into action.

Every country in OPEC knows that we are looking for oil outside the present OPEC area. This is considered natural; it would be considered unnatural if we were not doing so. All finds of oil decrease the relative strength of OPEC, or they would if the countries were oil is found did not have the distressing habit of joining OPEC or at least following it closely as soon as oil is produced in substantial quantities. In general it must be said that the more oil available in the world, the better off we all will be. But we must also recognize that the chances of producing sufficient quantities of oil outside OPEC are not great and that the hope of the world must lie in the development of new resources which will be available as the world oil production starts to decline.

As you know, Peter Flanigan brought me to the White House immediately after the 1972 election to work on President Nixon's Energy Message. The message we prepared was tough and we thought it would be effective. Mr. Flanigan and I were quite pleased with the effort and those Congressmen who were given copies also seemed quite enthusiastic. But it did not survive the ministrations of Mr. Ehrlichman and his merry men who thought that all energy problems could be solved by the market place. The long section on conservation was removed; nothing on cooperation with the other consumers and the producers of oil remained—except one brief reference. Only the section on increasing domestic production remained relatively intact. When the message finally came out—and I want to disclaim, once again, any responsibility for it—it even eliminated all reference to the "energy crisis". I was sorry about that; I liked the word; I still do, for we seem to act in this country only when we think there is a crisis—and there really is one! But the argument used for killing the word was convincing: "This is the *second* Nixon administration; how can we talk about a 'crisis'; people will ask why we didn't move sooner." And indeed they would have. Indeed they still are.

Nonetheless, we haven't moved very far even yet. The Alaska pipeline is under construction—late but at least it's being built. However, I still see inefficient air conditioners for sale and the efficiency ratings on all energy consuming devices are unclear and even confusing.

I see no substantial tax incentives for home insulation or for conversion of homes or offices to solar heat. Most importantly I see no tendency even to consider a higher gasoline tax; to the contrary, I see declining gas prices and a shift back to the bigger car. It is shameful to pretend we have an "energy program" or an "energy policy" if we refuse to address ourselves to the enormous wastage of gasoline in this country; if we refuse even to consider the draconian measures which will be necessary to move the country, over the next decade, into more efficient cars. It will not be done by decreeing that by such-and-such a date all cars will get such-and-such a mileage. We've seen already how easy it is to change these laws. I am convinced that the only way will be through a program to increase, through increasing taxes, the cost of gasoline. It should be announced now for application in 1979 and then the tax should continue increasing for the next ten or twelve years until the total tax would be of the order of $1.00/gallon. The tax, admittedly, is regressive and there would have to be some sort of an automatic flat tax rebate, say $250 per head of family, if he used a car or not; if his car is small and efficient or large and inefficient. If gasoline consumption is 6 million barrels/day and if the tax were to reach only 60 cents/gallon. The annual income would be $55 billion. But as we would hope to cut gasoline consumption by half, the tax would still bring in $30 billion. A rebate to each head of family of $250 would leave the treasury with $10 billion for building oil storage, for developing mass transit and for funding research on other energy sources. Not, we must fervently hope, for further construction of highways.

There should also be a program of expanded subsidies for mass transit which would further cut energy consumption. Fortunately, some moves are already being made here—but the subsidies for this still come from the general treasury not from increased gasoline taxes.

To refuse to move on the interests which profit from the production of the gas-guzzlers and to use as the excuse the popular revulsion to the idea, I believe is wrong. I have talked on this subject in the Senate and the House for over six years and I have made a reference to it in almost every speech I have given. I am absolutely convinced that the American people would accept the proposal; they know something of the problem already and it can be explained more fully; why and how a gas tax would be effective and what the economic and political benefits to the country would be. It will take some political courage on the part of our national leaders, but that is what we expect of them. And I insist it will not be impossible; particularly if the new tax were tied to a substantial tax rebate or direct off-setting payment. The consumers can then use their rebates for paying the higher gasoline taxes or, if they switch to mass transit or to more efficient cars, they have increased their incomes. It won't work perfectly; some will be hurt and there cannot be remedies for all; but Europe has not found gasoline taxes intolerable and Europe's cars get about twice the mileage of American ones.

Putting aside as immoral, insane and impractical the repeated proposals last year to solve our energy problem by a military occupation of the Arabian peninsula, the only real alternative we have to solve our energy problem is to develop new sources of hydrocarbons and new sources of energy. Even conservation will only offset normal growth in demand for a few years—no more than a decade. The work of ERDA seems well-financed but it is argued that not enough attention is devoted to nuclear fusion and solar energy, that the old AEC obsession with nuclear fusion has not yet been overcome. Perhaps an independent review of ERDA's priorities might be useful.

Then there is the IEA. I have strongly urged for years (long before the formal formation of the organization) that we should be working with the other developed countries on joint programs of research on new energy. The IEA as now constituted is largely negative; that is, it is supposed to react in time of crisis. I believe the main emphasis should be on the development of new energy. Many times in the past scientists in one country, sometimes in one town, have worked on a problem, with each having solved a portion. Had they worked together the solution could have been reached much earlier. There is now some exchange of information on energy research but as practical application comes closer than governments and especially companies become more secretive; they want the practical rewards for themselves.

If we are serious about cooperation on energy research, and we say we are, then an international version of the ERDA must be set up with the capability of overseeing the exchange of information and even the direction of various phases of research. I strongly urge that the IEA move in this direction soon.

Some have thought that OPEC might object to such a program. This is nonsense. How could they? They know we have to think now about the post-oil era. In fact, I strongly suspect that if IEA turns into a cooperative organization as most of its members want and drops the confrontational aspects, that many OPEC countries would wish to participate in and help fund the research.

I would like to close by expressing a hope that we will finally admit that there are no easy solutions to our problems; that we admit there are economic and strategic dangers in over-reliance in imported oil and that we admit that conventional oil will be exhausted by the end of the century and possibly sooner if the world economy revives and old energy growth patterns are restored. Having made these admissions, we should admit further that the only villains are those who led us astray with their predictions of ease and glory: all we need to is to stop listening to them and start facing a rather tough future which will almost certainly entail some restrictions of growth in standard of living, although probably not a decline.

Specifically, we should move on a tough strip-mining bill. The Congressional bill was good and I do not believe it should have been voted. Strip-mined coal is not going to solve our energy problems; we will not become self-sufficient through coal in the next decade and there is no reason for a crash program resulting in irreperable damage to the environment to produce somewhat more coal at somewhat lower price. A compromise with the White House should be possible now; certainly it should be after January, 1977. I would also urge strongly that the new bil lcontain a tax of 25 cents on every ton of strip mined coal to be devoted to the restoration of the lands destroyed by eariler strip-miners. I believe we should go forward rapidly with the exploration of oil on the outer continental shelf and I believe Navy Petroleum Reserve No. 4 should be opened to commercial exploitation. There may be no oil in Point Barrow; but there may be a lot and we cannot exclude it from development. It is of no use of the Navy as it is. If a strategic reserve is believed necessary (and I'm not convinced it is), then the terms for developing this area could include the provision that in time of peace No. 4 would produce only at half capacity; that the wells gathering systems and pipelines would have to be bulit to handle twice the allowed production. I am sure quite a few companies would accept such a condition willingly.

We should certainly build storage facilities for at least ninety days imports, this was recommended by the OECD eight years ago and more recently by the IEA. If our imports are now running at 8 million barrels/day and if the landed cost is around $12.50/barrel and the cost of construction is $1.50/barrel, the total cost would be around $10 billion. It could be paid for out of the gasoline tax. It might even be possible to interest a few of the OPEC countries in the proposal. They could store the oil almost as cheaply in the United States as they could at home and could get substantial interest payments on the oil before it is used.

Vice President Rockefeller's plan to provide government financing and government financial gurantees for large energy projects seems to me to be an excellent idea. While I know that quite a few members of Congress believe the proposal sounds too much like a blank check to industry, I am confident the Congress would be able to attach adequate safeguards against abuse wtihout rejecting the entire concept. There will almost certainly be large projects, e.g. the Canadian Arctic gas development and pipelines; cryogenic transmission of electricity, for which industry may not have the funds or be able to acquire them. The Rockefeller proposal fills this gap.

On the negative side, we should not think that breaking up the oil companies will solve the energy problem; it would almost certainly make it worse. A congeries of small refineries competing for the available oil would be duck soup for OPEC and the result would almost certainly be higher oil prices. The alternative of having the United States import all oil through a system of closed bids is considered by OPEC to be one of the most hilarious of the many amusing suggestions to have come out of Boston. One oil minister has said that if the auction were held no one would come; another suggested that all OPEC countries would bid $2.00 a barrel higher than the world price. In either case, the auction would be followed by panic in the United States. Both ministers were convinced that no one in OPEC would or even could cheat; that if it tried, its action would be immediately known to other OPEC countries and it would be ostracized—an action no one in OPEC would afford.

We should also not forbid the oil companies from engaging in research in other forms of energy or in acquiring other energy sources. They have the capital, the experience to develop them. More importantly, they know that if they do not find other sources of energy they will die when they run out of petroleum—and most can see that day approaching. I don't think we have any interest in killing them and if they are allowed to diversify they will have powerful incentives to develop new energy sources. Given this stimulation they might be at least as successful as governments.

All of the economic arguments have validity only if considered in the broader political context. We are not going to be "independent" in energy (if that means self-sufficiency) for a long time, probably not before the end of the century. And we will not be "independent" no matter how loose the definition in the next ten or twenty years unless we are prepared to make enormous and politically unacceptable sacrifices in reducing standard of living and degradation of the environment. We must admit, like it or not, that much of our energy will be imported in this period and much of these imports will come from the Arab countries. If there is peace in the Middle East, I maintain that this would cause us no problem greater than reliance on Canada, Norway, Britain or Venezuela. If there is war, it could cause us enormous problems. Therefore, if we want to be assured of oil supplies at reasonably stable prices, our first effort must be made toward achieving peace in the Middle East. I am optimistic that this can be done; in fact I am confident that it will be done although I admit that these feelings are based on the knowledge that war in the Middle East would be intolerable and on the premise that we are governed by rational men who can and therefore will prevent the war.

The premise may be faulty. I am sure the analysis is not. When we have men in charge of negotiations who are trusted by all sides; men who are honest and straightforward; whose word is always honored; then I think we can move quickly toward a comprehensive peace settlement in the Middle East. I am confident that we will start to move in January, 1977. I hope the area can remain quiet until then; and I hope that the new studies we always seem to require can be kept very short.

Chairman KENNEDY. Mr. Lamont, please proceed.

STATEMENT OF WILLIAM J. LAMONT, ATTORNEY, LAW FIRM OF LOBEL, NOVINS & LAMONT, WASHINGTON, D.C.

Mr. LAMONT. Thank you, Mr. Chairman.

Unfortunately the time between receiving the invitation to testify and now has not permitted me to prepare a very elaborate statement, for which I apologize. On the other hand, it does give me an opportunity to read it in full.

I speak as a somewhat worn "antitruster." I am a disciple of John Sherman, and I have preached, as a matter of interagency liaison in the U.S. Government, the creed set forth in statute which say, "Thou shalt compete, thou shalt not collude nor conspire; neither shall your affairs be consolidated and noncompetitive."

But I will say that while I was interagency liaison between the Department of Justice and other agencies of the Government from the middle 1950's through I think about six of Jim's predecessors in the Office of Fuel and Energy in State, apparently my teaching was neither very clear, adequate, nor effective. As it stands now it is extremely clear that as far as energy is concerned—the oil component of energy particularly—we do not now have anything that remotely resembles competition.

I think all the speakers at this table have said that internationally there has not been any degree of competition in the oil market.

The reason for that is quite simple. Essentially we have an industry which was conceived in monopoly, brought forth in that unhappy

state, which was broken up only partly in 1911, and which has since sought to crawl back into the womb from which it sprang. In other words, the independents in the industry back in 1911 were not so much concerned with breaking up the monopoly but joining it; and they have all since moved forward in consolidated, noncompetitive operations wherever possible.

They have done so largely since World War II under the guise of "emergency." I can't really face the memory of how many hours, across how many tables, I have discussed with how many people from State, Interior, Office of Civil and Defense Mobilization, Office of Emergency Planning, and so forth—as they explained between 1950 and now that there was, at almost any given time, such an emergency that we had to dispense with the Sherman Act. We simply could not attack any of the producing joint ventures, for that would upset our foreign relations.

We had to protect our interests that our American companies had in those foreign producing areas because that would be our insurance against a real shortage. At the same time at home this marvelously nonrapacious industry of which Mr. Akins so generously spoke a few moments ago, was busy erecting barriers around our shores, import barriers, to maintain a high, stable and noncompetitive price for oil.

They did this through a number of devices, but essentially by prorationing. It is that mechanism now which will prevent the breakup of the OPEC nations in substance—the true prorationing, not that which is usually understood.

I suggest first, that whatever possible alternatives we may have to consider in international oil are really sort of useless until we have an oil industry that is not larger than the U.S. Government. You cannot regulate that which has more inherent power than you do.

I suggest also, as far as the energy that this world needs is concerned, the multinational companies and their allies in the OPEC countries have basically a control which we cannot directly shape as long as the organization of the oil markets remains what it is. No matter what we choose to do, no matter what strategies we seek to apply, we run up against the basic fact that oil movements are now controlled by a series of crude oil markets in which buyers and sellers have virtually identical interests.

There has been, as Senator Church's investigation brought out over the past months, a rather explicitly organized petroleum cartel, which depended not upon explicit agreement among companies, but upon anticompetitive consolidation of joint venture operations which were linked.

When we speak of energy companies now, when we speak of vertically integrated companies, we speak of individual companies that are so cross-linked in so many places, in terms of crude oil supply and movement, that the decision of none of them with respect to price or supply is a decision that is independent of the rest of them. That, essentially, is the controlling mechanism that has been maintained by this cartel, which was protected by the constant series of emergencies which we faced—or maybe we didn't—between 1950 and the present.

And incidentally, as to the predictions of shortages, this I think is most important, back in 1953, I believe, before the House Interstate and Foreign Commerce Committee there was a series of hearings

examining the prorationing system, in the course of which one of the counsel put together a single volume of hearings which in it had predictions made by Russell Brown of the IPAA as to our running out of oil. It was about a half inch thick, as I remember, a reprint of newspapers, of stories, of shortage speeches going back to the 1930's, and covering periods when we were strangling in oil.

At the present time, as a matter of fact, we do not now know how much oil we do have. We do not know how much oil is outside of the OPEC nations, and we, at least the consumers of the United States and the U.S. Government itself, have only a very vague notion of precisely what degree of producibility there may be within the OPEC nations. In other words, we are operating through a fog created by the companies who have themselves control of the operations because they are the operation.

There has been a great deal of hopeful thinking that perhaps OPEC would break up. Those who do so did not study the domestic prorationing system in the United States. We had something very much like what exists today for almost 35 years. We had individual States which controlled segments of the domestic oil market. None of them had such total control that it could itself subtract the total amount of nonprorating States' production entering the market. By which I mean to say, there was always a very substantial margin of production outside of Texas, Louisiana, Oklahoma, Kansas, New Mexico, and Arkansas, which is not really considered a prorating State, but was.

There was always enough production outside of those areas to break the market any time the companies wished to do so. But the fact was that the companies who were the producers were the companies who were the purchasers.

The important fact about the operation of the Texas Railroad Commission system was not the "allowable" decision the Commission made in open session in the monthly "allowable hearings." What was really important was the buyers' meeting the night before, by which individual differences were adjusted. Attending one of those sessions, I would suggest, would give Mr. Frankel a different view as to how the companies and the OPEC countries will be able to prorate.

When Lord Strathalmond and George Piercy sat down to talk to Yamani or any of the OPEC representatives with respect to price of crude oil, it could possibly have crossed their mind that if crude oil jumped from $1.50 to, say, $12, there were 15 to 20 million barrels of reserves they had on the North Slope, which would jump correspondingly. Let's suppose it would jump on the average of $10 a barrel, that would be something on the order of at least $150 billion; and that, I suggest, is enough to make them extremely receptive to whatever price suggestions Mr. Yamani might wish to make in the way of raising the Aramco price.

We do not have now, and we have never had, any real buyer-seller difference, and therefore we have not had any real pressure on the domestic or the foreign crude oil price. Until we do, we are simply going to face a continually rising, high and stable crude oil price.

That is the reason why I am urging—begging—preaching the need for congressional enforcement of the antitrust laws. Now, that is the term for that which the industry chooses to remark as "dismember-

ment", what the press and staff calls "divestiture." To me the act is quite simply a congressional declaration that, having failed to have an Antitrust Division enforcement of the antitrust laws over the past 25 years with respect to oil, it is now time that the anticompetitive structure, which should have been handled piece by piece in small cases over the years, should now be redone by direction of the Congress.

The record of the Antitrust Division with respect to that has been rather pitiful. Not that we have not had enough staff recommendations—I generated enough myself, and I could recite many others that had reached the top—but none have been acted upon. It will become apparent if you look at the hearings before Senator Jackson and Senator Stevenson last fall in which Mr. Kauper testified, that this occurred not because anyone disagreed that there were active antitrust violations, but quite simply because they needed further study.

For the Antitrust Division now to staff up, to commence an investigation of the oil industry which would provide the basis for a court decision; for it to begin litigation, for it to carry that through, would be a matter of more than a decade.

If, then, we are to realize any of the benefits of the forces of competition within the marketplace within our life time—certainly within mine—then Congress must enact one of the vertical divestiture bills.

Regulation, as Mr. Krueger suggested is a temporary palliative. But if anyone has, as I have within the last 3 days, come to grips with the Federal Energy Administration's operation of the regulatory system, they would not out of kindness to the consumer or the legal practitioner who must deal with these regulations, would not suggest regulation as a viable long-term alternative. Thank you.

Chairman KENNEDY. Thank you, Mr. Lamont, your prepared statement will be made a part of the hearing record.

[The prepared statement of Mr. Lamont follows:]

PREPARED STATEMENT OF WILLIAM J. LAMONT

I appear in response to your Chairman's invitation to discuss problems of free enterprise competition in United States energy policy, particularly in relation to international commerce in oil, and to comment on some possible alternatives which might increase the effectiveness of thta energy policy.

My statement is brief, partly because of time constraints, but mostly because the points I deem most important are brief and simple.

First, I am not at all sure that free enterprise competition has or has had any discernible relationship to what passes for United States energy policy, particularly as such policy may extend to international oil trade. True, the Sherman Act supposedly sets the principle of free enterprise competition as the bedrock of four settled economic policy. But that "settled policy" has for decades been honored more in the breach than in the observance; and never more than at the present time.

Second, until we have an administration which faithfully executes the law by enforcing the statutes prohibiting restraints of trade in international and domestic trade in oil, United States energy policy is only a myth. For truly our energy policy is no more than a vague hope that what is decided among the OPEC countries and their multinational corporate allies will not too badly harm this country or its consumers. But it is clearly in their generous hands that our energy future is now rested.

Third, it is abundantly clear that in those hands any possible hope for a competitive energy future is futile. Once you had an international petroleum cartel, composed of companies who could effectively operate a cartel only so long as they could convince a complaisant government that a real emergency existed. Long ago that cartel had progressed to the automatic division of market shares through

the development of joint venture companies. And, as Senator Church's extensive investigations have brought out, those companies could and did effectively control the supply, flow and price of crude oil in international trade through World War II and up to the end of the 1960's. And it is clear, this market control was in violation of U.S. law.

Beginning in the first years of this decade, however, the OPEC countries became sufficiently sophisticated to realize that they could dictate to this cartel what the level of prices should be. But they also knew that, so long as the company group remained intact and with a shared interest, OPEC could resist those economic and political intercountry pressures which might otherwise destroy their power over world oil prices.

They had been, in short, assiduous students of United States experience in State control of crude production. At no time in the thirty-five years that State prorationing mechanisms supported high and noncompetitive domestic crude prices, were there any commonly agreed bases upon which individual States could claim any particular quota. During those thirty-five years, inter-State cheating was rife. Texas went from more than half the U.S. production to less than thirty-five percent, while Louisiana grew from a miniscule amount to more than twenty percent. Attempts to establish stable quotas by reference to reserves, producibility or actual production, or any combination of the above, failed for one reason or another.

Yet at no time during those thirty-five years did the crude market come close to breaking. As the OPEC nations could observe during the Fifties and early Sixties, the strength of the price stabilization lay, not in any explicit agreement, but in the cement of common interest among the producing states and the purchasing companies. The Texas Railroad Commission liked high and stable crude oil prices; and so did Exxon, the largest producer and refiner in Texas. So long as Exxon, and the other "nominating companies"—that is, the integrated crude oil purchaser-pipeliner-refiners—found more profit and asset interest in crude oil production than in refining or marketing, they would always find it more profitable to increase crude oil prices to absorb the full amount of any profit in the total integrated system.

There was literally no real pressure on domestic crude prices, despite the fact that an ample margin of shut-in production lay outside the control of the prorating states. It quite simply was never in the interest of the companies who controlled the market to bargain for lower prices.

It is this experience which provides the best laboratory example of what caused and what might cure our present energy situation. For even as the OPEC countries rely upon the common interest of the multinational producer-refiner-marketer companies to smooth out imbalances among the production interests of the individual OPEC nationals, so it is open to the United States to rupture that common interest.

Quite simply, after two generations of non-enforcement of the antitrust laws by the Executive Branch, Congress should enact legislation ending the anticompetitive effects caused by the integrated structure of this industry. The link between the producing industry and the refining industry should be broken, with the result that a truly competitive crude oil market would for the first time be possible. This legislation, in short, would merely correct a situation that the Antitrust Division of Justice should have corrected years ago, but did not.

With that as a beginning, there would be a vastly different set of incentives facing the various sectors of the industry. For example, Exxon Producing, still about the fifth largest of industrial corporations, would try to hold crude prices high; but Exxon Refining, also a giant, would try to minimize crude prices, unlike the present situation.

With a base of competitive operations, the United States could fairly appraise what its policy future should be, not in terms of what these peculiarly organized giants would have, but in terms of true national interest. Even more important, it would unleash the competitive vigor of oil producers everywhere to find and produce crude oil independently, not just to maximize the profits from those resources already found and developed.

Chairman Kennedy. I would like to invite comments by the witnesses on some of the remarks Mr. Lamont has made, or any other witnesses' testimony today.

Mr. KRUEGER. Mr. Chairman, I think there is a basic fallacy in the proposition that these companies are so large that they cannot be regulated, and therefore you must dismember them before you undertake this alternative.

I think we have in the Securites Act of 1933, the SEC, an example of a very good regulatory measure that does indeed control some activities of very large corporations.

I think there is perhaps some confusion on what types of competition we are talking about. I quite agree that for a number of years there was a cartel by the oil companies in the Middle East and elsewhere, and they controlled price. Then we had competition. We had the independents come in the Middle East in the 1950's and 1960's, and they began offering better terms, and as a result oversupply began to occur, which the major oil companies were unable to control. The producer nations, the OPEC nations, then saw that they would have to form their own cartel to control price/volume of supply so as to maintain price.

Now, in both cases we had a cartel, but in either case has the consumer benefited from such competition as did exist. Moreover, what may have been in the thirties, forties, fifties and sixties, is not what now exists.

We had a study made in connection with our FEA report by Walter Mead, a University of California economist, which concluded that effective competition exists in the international petroleum industry to the extent it can be competitive to bearing in mind that there is a seller cartel—and that has also been the conclusion of a number of other independent reports. I do not want to get into debate here as to whether there is or there is not effective competition in the international industry. I am simply saying that if we have regulation—full disclosure as in the Securities Act of 1933, and review and approval of major supply arrangements, it would be a very viable, very useful alternatives to divestiture and one which will not result in the dismemberment of some very efficient and very large organizations.

Chairman KENNEDY. Are there any other comments someone would like to make, and then we will get to the questions.

Mr. FRANKEL. Senator, I think the difficulties of these discussions are partly semantics. Whereas it is probably true that there does not exist competition in the sense Mr. Lamont considers the only acceptable form of competition, there did exist and does exist a competition between the big companies, only this competition is an oligopolistic competition, which has a different term of reference from the textbook competition of a great number of small operators.

Now. the reduction of prices in the 1950's which led to the formation of OPEC as a defensive operation in order to reduce the impact of competition between the companies, which resulted in the reduction of the price level, this competition was not confined to the so-called independents or newcomers, there was a potential but very strong competitive situation among the big oil companies, only it was determined by the fact that they were heavily investment oriented, and therefore, apart from competing with each other, they did want to maintain a certain level of continuity which Mr. Lamont does not consider to be compatible with competitive operations.

I ask myself, however, if Mr. Lamont speaks out of the feeling of frustration that his concepts have not been accepted over the last 45 years, one wonders whether there are not inherent roadblocks to the realization of his idea which cannot be ignored and cannot be related only to the bad will, or the influence of certain individual companies, but to basic economic conditions which have fashioned the industry as we know it.

Chairman KENNEDY. Mr. Lamont, just briefly, and then we will get to the questions.

Mr. LAMONT. May I respond to the two people at once. First, with respect to Mr. Krueger's observation as to the new formation of the OPEC cartel, when the King of Saudi Arabia undertook to direct the operation of the oil industry in his country. What he did was to direct the operations of Aramco.

What I am suggesting is that there was not created a new cartel. What was done was that the OPEC countries in essence took over the existing powers that the companies had created in the form of this noncompetitive international framework of oil distribution. They simply took it over and operated it for their own benefit. They figured they could not lick it, but they could join it; and that they did for fun and profit.

As to the comments that Mr. Frankel just made that perhaps my many years of frustration were due to the fact that I was inherently wrong, and that possibly my desires for more free competition just simply did not square with the facts of the marketplace, that may be true; in fact, I think it is true.

I think it is quite probably absolutely true that international oil movements over the past 40 years have been highly illegal, and that the U.S. law required that it be ended. It could exist only because some overt violations of the law were permitted only under the plea of emergency—emergency—emergency; and perhaps a payment or two. [Laughhter.]

Chairman KENNEDY. We should get back to the primary focus of these hearings of what policy the Government should be pursuing in this general matter of the international petroleum situation.

Let me just start with you, Mr. Akins. One of the impressions that I got in my trip to the Middle East, the very valuable and worthwhile visit to Saudi Arabia, which gave me the opportunity to meet with you there, was the impression that the American Government was not pressing as fully or as completely as it probably should on the whole issue of increase in prices, and the extraordinary implication that was having in terms of the American economy and generally the world economy.

We had some witnesses yesterday who felt that even with the increase, the escalation of cost, it was a small fraction of the inflationary situation both here in the United States and the world economy.

As interested as I am in debating that point, I am really getting to what assessment you can give us as to the degree and intensity of interest of the U.S. Government in keeping these prices at a more reasonable level. Could you review what your understanding is, what it was at that time and at the present time.

There was a meeting, as I understand it, of the Secretary of State with the Shah of Iran in Switzerland in 1975, and the reports were that

that meeting was to consider the question of the price level; then there were other reports that it was not raised by the Secretary of State. What can you tell us, generally, about U.S. policy then and now?

Mr. Akins. There is not too much I can say on what the U.S. policy is on oil prices apart from instructions I got for use in Saudi Arabia. As you know, the current system in the State Department is centralized rather like the French railroad system, there is no lateral distribution of cables, everything goes to the central office. Offices in the field don't know what is going on in peripheral posts. You just don't know what is going on around you that may be of interest to you and important in making your own recommendation.

The instructions I got in Saudi Arabia led me to believe that our policy was to reduce oil prices. I took this subject up with King Faisal; with Prince Fahad, who is now the crown prince; with Ahmad Zaki Yamani, the petroleum minister, and others. I went over with them in detail the dangers to the world of higher oil prices; why they should take a position against higher prices; why they should restrain price increases, and why they should in fact act to bring down prices.

Not only did they agree, but as you know from their actions in OPEC from December 1973 until the May 1976 meeting in Bali, they have been consistent in the position that prices have gone up too far too fast, and that the world should have a chance to adjust to these prices before they should go up any further.

However, I was constantly urged by King Faisal and by Minister Yamani to get other countries in OPEC to support the Saudi Arabian position.

The Saudi position was,

> We are small, we are weak; we do have a lot of oil reserves, but politically we are isolated, and we must have political support from you and other consumers; and we particularly must have you bring some of the other oil-producing countries around to our position. At the very least you should be able to stop them from attacking us for doing what you, the American Ambassador and the American Government want us to do.

I reported this frequently to Washington, so frequently that I was told Washington was very annoyed by these reports. I then asked if I should stop reporting things that were raised by the Saudis, and was told only that Washington was annoyed.

Chairman Kennedy. Did they say why?

Mr. Akins. No; I was just told that I was annoying people. I asked if anyone suggested these reports were wrong or the analyses were wrong, "No, not wrong, just annoying."

"Well, why?"

"They were just annoying."

It was not a very satisfactory dialog. However, I did tell my staff at the time that I had been given these warnings, and I was, under no circumstances, going to heed them. I did not want to leave Saudi Arabia, I had a lot of things I thought I wanted to do, but I was not going to twist reports to give Washington what it wanted to hear. You can have a GS-1 clerk writing this sort of report; you don't need an ambassador. I think I perhaps became more abrasive on this subject than was absolutely necessary.

However, King Faisal did raise with Kissinger himself exactly the reports that I had already sent in; he said:

We understand your reason for oil prices, but we cannot act alone, you must put pressure on other OPEC countries; and you must persuade your friend, the Shah, to go along with us in holding down oil prices.

What happened after that I don't know. I know that Kissinger saw the Shah, and the Saudis at least told me that they were told by the Iranians that we understood the oil prices had to go up.

Now, whether the Iranians made that up, or the Saudis interpreted it incorrectly, I don't know. I do know that there was absolutely no change in the position of Iran or of any other OPEC country—except Abu Dhabi, which is a special case. No other country in OPEC followed the Saudi lead in trying to hold the line on oil prices; that was true in the last meeting in Bali when, I understand, OPEC almost broke up because of the Saudi insistence that there be no price increase now.

As Minister Yamani has pointed out, other countries can go ahead and do what they want in oil prices, but they can't make the price stick without the cooperation of Saudi Arabia, and they are not getting it now. I think there will be an increase at the beginning of the year, the Saudis have never promised that there would not be. In any case, they have been a restraining influence up to now.

I think it would be very valuable for you to ask our ambassadors to Iran, Venezuela, Algeria, Indonesia, Nigeria and other OPEC countries what instructions they got, and what actions they took.

Chairman KENNEDY. I think that is a good suggestion. We have Secretary Richardson next week, and I think we will find that out.

Let me ask Mr. Frankel, when you talked about the issues in your testimony that the companies are not as directly interested in the actual level of prices, but mainly in terms of crude acquisitions, tell me, do you think the Government should play some role in determining the terms of this basic access; and if they should be involved, what do you think the limit of the Government intervention should be?

Mr. FRANKEL. Well, the thought of the Government—the governments because the United States is not the only one interested—the governments should know what is going on; they should be able to express their views; be able to consolidate their views perhaps within the IEA or OECD.

But I have no record, or no proof that governments as buying organizations, or as negotiating bodies with OPEC countries would be particularly successful. They usually came in when there was a shortage, and obviously no one can be successful in periods of shortages. In a period of surpluses it is probably not very necessary that governments become directly involved.

Chairman KENNEDY. Other than information, then, you do not feel that there is a government role.

Mr. FRANKEL. Except, of course, in the case of a real emergency, in which case that role is defined in the IEA agreement.

Chairman KENNEDY. Mr. Krueger, you suggested the utility of an organization of consumer nation petroleum companies with some government participation.

Representatives of Gulf said yesterday that it was too late for such a move to have an impact. Do you think it could still be effective?

Mr. KRUEGER. Well, I think perhaps had we discerned this position when we interviewed the majors in our study, 19 of the 20 largest com-

panies. I think some of the companies are apprehensive of having an organization of this kind established because a critical part of it, I believe, is to have continuous and rather pervasive governmental monitoring of the organization to make sure that the activities within it were calculated to serve the interests of the United States; and were calculated to make the best possible deal for the United States and other consumers.

I think it would be a very novel type of organization. You do have the traditional point of view expressed by Mr. Lamont that competition is, per se, necessary and this group by definition would not be competitive. But it would be directed to the fact that the oil markets of the world are not competitive. I think it is worth studying.

I would also comment that I do not believe Mr. Frankel's comments on disclosure would, as I understand Mr. Frankel—and we talked at length with him in London in our work—that these would be inconsistent with setting up a method by which the United States would review and pass upon proposed major international petroleum arrangements.

Chairman KENNEDY. Senator Taft.

Senator TAFT. Thank you, Mr. Chairman. I have an opening statement I ask to be included in the hearing.

Chairman KENNEDY. Fine.

[The opening statement of Senator Taft follows:]

OPENING STATEMENT OF SENATOR TAFT

MULTINATIONAL OIL COMPANIES AND OPEC: IMPLICATIONS FOR U.S. POLICY

Our goal in these hearings is a multi-faceted one. We are seeking to ensure U.S. access to a steady supply of oil, at a reasonable price, and to do so without jeopardizing any of our allies, or weakening our own military capabilities. This is not an easy task. These goals may frequently be in conflict. I think it is absolutely essential for us to realize that supply, expense, and independence are all part of the picture, and that we cannot afford a policy which focuses solely on one or two of these factors.

To achieve these goals, we must pull together as a people. Internal discord could destroy our efforts. On the one hand, no group may withhold information, or seek purely selfish advantages. On the other, no group may sweep economic or geophysical facts under the rug and resort to pat ideological cliches. We cannot risk any other course of action than a clear-headed and open minded review of the facts of this situation. We must thrash this out openly and honestly, with no maneuvering for advantage, and no camouflaged intentions or hidden purposes. I mean these remarks to apply to all governments, agencies, parties, companies, and consumer groups, equally and impartially.

The shouting must stop, and the work must start, before it is too late. Thank you.

Senator TAFT. Mr. Chairman, I am a little frustrated here because I have so many questions that I would like to put to the witnesses and I know that is not possible. I ask consent to supply questions in writing to several of the witnesses and ask for the answers to be included in the record.

Chairman KENNEDY. The witnesses will be so requested.

Senator TAFT. Mr. Akins, how can we get a constructive conservation program in this country? I have supported decontrol to inform the public of the crisis through the price mechanism. But prices were rolled back, and people are going back to big cars and turning up the thermostats—or turning them down in summer, as the case may be.

I opposed the energy bill, as did a large number of Republicans and many Democrats. We have no teeth in any conservation program today that I can see—we could not legislate public enthusiasm. Certainly, there are many conservation-minded Democrats and Republicans, of which I am one. How do we resolve that problem, how do we get conservation?

Mr. AKINS. The one point I think is the most important one is the one I referred to in my prepared statement—a gradually increasing tax in gasoline. Gasoline is the area of the most flagrant energy consumption; it is where we can make the most savings without real damage done to the cost of living or the environment.

If we got the same gasoline mileage on our cars the Europeans get, with no change in driving habits, we would save over 3 million barrels a day of gasoline. I think the only way of turning around the renewed trend toward the larger car is to announce, right now, that next year, or 3 years from now gasoline taxes are going to start increasing by 5 or 10 cents a year until the gasoline tax gets to be $1 a gallon.

I think with such an announcement, Detroit would make a very quick re-assessment of its ability to sell large cars; and people would make different decisions on new purchases of cars. This is the place we can make the big savings.

I think we can also save energy by tax rebates for industries or for individuals who convert their industrial buildings or houses to solar heat.

But I don't think there is very much we can get done by just jawboning and telling people there is a crisis. Too many people believe there isn't one. I think the latest poll concluded that even now, many people believe that the shortages and price increases of 1973 and 1974 were arranged by the oil companies. And while the oil companies made considerable profit, at least in the increased value of their inventories. It is nonsense to say they were responsible for these price increases or shortages.

Senator TAFT. Did the multinational corporations in your opinion do an efficient job of targeting non-OPEC, or nonembargo oil to the United States and the Netherlands, and leave the OPEC oil for Europe, so as to minimize or equalize the effect?

Mr. KRUEGER. The FEA did a post mortem on the energy crisis, and it showed that the majors, the U.S. companies, had done a very good job in servicing the U.S. market; and also in servicing their other traditional markets such as Japan and Western Europe, the study showed that virtually every consumer country involved thought they had been discriminated against in favor of the others, but the evidence tended to show that the majors did a good job of spreading the available production.

Senator TAFT. Mr. Lamont, the oil companies have already been subject to extensive controls, and currently the Senate Finance Committee has taken even further tax benefits from them, which will discourage capital investment in further exploration for oil.

Do you feel that divestiture would be a final blow and make it impossible for oil companies to explore and drill further to meet the energy crisis that seems to be facing us in the 1980's?

Mr. LAMONT. Do I think it will be the final blow? I think on the contrary, it is one which would give great impetus to domestic explora-

tion. At the moment, look at the situation. What kind of idiot economics would it be for one of the major companies which is part of this multinational concert of action, what would be the point of their expending a very substantial amount to bring onstream substantial new supplies to supplant that supply of which they already have more than enough now?

What I am trying to say is, for the major companies at the moment, the multinational companies, they have now a preferential access to OPEC crude, country by country. They still have very substantial amounts of tax benefits which are not going to be wholly taken away from them.

They know there is a declining curve on time. Time is running out for them to be able to do what they want to do. Accordingly, you have some ridiculous things, like oil being shut in in the United States at the price of $10-plus, being replaced by oil at $13 and $14 a barrel in landed cost brought from abroad.

What I am suggesting in short, that certainly in the short term the complex of individual decisions that you would get from the more decentralized industry that with divestituture you achieve—that complex of individual decisions would be apt to give you a substantial amount—more domestic oil and oil outside the OPEC nations than we now have. And far from discouraging investment, may I suggest that the investment that is involved is in oil, not companies. As in other things, investment is to be weighed in terms of anticipated returns from the search.

You will say, I suspect, that after all, that oil finding is extremely high cost and extremely risky—but when was the last time a major oil producer went bankrupt?

Senator TAFT. Are you saying that the oil pricing is a fraud, and there is no oil crisis; but nevertheless, we are running out of easily recoverable hydrocarbons; or do you think there are plenty of them left, in which case the middle-sized companies can expand and make an end run around the cartel? Is there, or isn't there an oil shortage?

Mr. LAMONT. Well, first of all, there is shut-in production far in excess of what the world can use. A good deal of that shut-in production is in the OPEC countries, no question about that.

There is a great deal of unexplored area outside of OPEC that has not been touched, and in which the major companies will not now finance investment because of the amount now overhanging the market. At any given time the majors can, as they did with "Occi" in Libya, they can very easily hang independents out to dry.

Senator TAFT. Thank you very much.

Mr. LAMONT. So, what I am saying, you have a crisis in organization, and that is not necessarily a crisis in commodity supply.

Chairman KENNEDY. Senator Proxmire.

Senator PROXMIRE. Thank you, Mr. Chairman.

Mr. Akins, did I understand you to say that we should increase gasoline taxes up to $1 a gallon?

Mr. AKINS. Yes.

Senator PROXMIRE. $1 a gallon, is that right?

Mr. AKINS. Yes.

Senator PROXMIRE. I calculate, you said about 150 billion gallons a year, that would be about $150 billion a year increase in individual

income taxes that Americans would pay. Now, I realize that would have a heavy inhibiting effect.

Mr. AKINS. I am talking just about gasoline, and your figures are way off. You are talking about the total consumption, the gasoline consumption would be about a third of that.

Senator PROXMIRE. Well, the staff has given me a figure that I have, I said $150, I mean $115 billion.

Mr. AKINS. That's closer.

Senator PROXMIRE. At any rate, say your figures are correct, your assessment is right——

Mr. AKINS. I am assuming that.

Senator PROXMIRE. It would be $50 billion.

Mr. AKINS. I am assuming we would cut gasoline consumption in half, so it would have to be cut by a further half.

Senator PROXMIRE. Why do you assume we would cut the consumption in half?

Mr. AKINS. That is the purpose of the whole idea, it is not to raise revenues, although that would be a very nice added benefit.

Senator PROXMIRE. I know it is the purpose not to raise revenues, but to cut consumption.

Mr. AKINS. Right.

Senator PROXMIRE. What makes you think it would be cut in half? It is a very nice assumption.

Mr. AKINS. I am assuming we can get at least the same mileage as the Europeans do, and if we can do it, we will cut consumption in half.

Senator PROXMIRE. Well, that will take quite awhile. Then, the second point is the enormous injustice of this kind of thing. Now, I suppose you would get a kind of Rube Goldberg situation where you have an opportunity for people who have to drive distances to get coupons, who have to drive to work get coupons.

Mr. AKINS. No.

Senator PROXMIRE. We have in our State, and I think all the Senators represented at this table have the same situation. In my State there are literally tens of thousands of people who drive to work; and if they have to pay another 15 or 20 cents a gallon, let alone $1 a gallon, it is just a crushing blow.

Now, it is true, you are right, they would find ways in some cases for carpools forming, and so on, but it would be an enormous economic adjustment on the part of tens of millions of Americans to get to work.

Mr. AKINS. Yes; it is a regressive tax; and I have said that one way to handle that would be to give each head of family a rebate of $200 or $250 a year to help offset the increased gasoline prices. If he takes the bus, he puts the money in his pocket. If he has to use it for gasoline, then he does that.

Senator PROXMIRE. Well, that is fine if you can take a bus. Of course, I have many thousands of constituents in my State—there is no way they can take a bus. Maybe eventually that can be worked out, but they commute to Madison, Milwaukee, and Racine—distances of 20, 30, 40 miles—literally, I am not exaggerating. I have stood at plant gates and asked them where they come from. If they have to pay this, it would be an economic disaster.

Mr. AKINS. Of course, that would not come immediately. I proposed that we started a few years from now, and it be increased grad-

ually to $1 a gallon. It would be a period of 10 or 15 years before this is applied fully.

Senator PROXMIRE. Well, I am glad you speak out bluntly because we have to wake up to the fact that we need some way of discouraging the enormous waste of energy; I think you are absolutely right. I just think of your proposal as drastic and unrealistic.

Mr. AKINS. It is certainly drastic, but that is the only thing that would work, and it would save us 3 million barrels a day.

Senator PROXMIRE. Now, that is not the only thing, there are other things.

Mr. AKINS. On gasoline?

Senator PROXMIRE. That is certainly one of the elements, but there are other things, rationing.

Mr. AKINS. Rationing is another one, but is that tolerable?

Senator PROXMIRE. And then, another possibility, we have to recognize that certainly one of the major problems we have is the problem of timing. Many people feel that 20 years from now we will not have the same kind of problem, technology coming on will give us alternatives.

This is a case, it would seem to me, if we also have a problem which you probably cited, of another boycott, then is not a reserve, a big oil reserve wise and appropriate policy?

Mr. AKINS. That is one of the things I proposed specifically.

Senator PROXMIRE. And should that not be done as rapidly as possible?

Mr. AKINS. Absolutely, that can be done fairly quickly. It will be quite expensive, but it can be done.

Senator PROXMIRE. Well, we have legislation which would require that, but it is my understanding we are not coming on as rapidly as we should.

Now, Mr. Krueger, I would like to get you to respond to the point that Mr. Lamont made. It seems to me a logical point, and I would like you to review it, if you can; and that is that the buyers and sellers of crude oil have an identity of interest. There is no advantage for the big oil company buying oil to have a price go down. If his inventory drops, he probably won't do as well in net income. So, it is to his advantage to keep that price up.

Mr. KRUEGER. Well, there is an issue of terms involved here. In talking about independents in the foreign market, and even domestically, you are talking of a number of companies as being independents which are quite large and integrated, Amerada Hess, Union, Sun, Getty, Occidental, and so forth are in this category. Their instincts, the way they operate—some of those don't market, but they have refining, they are downstream—will be much the same as the majors'.

Now, if you are talking about the very small operator that only is in the production end of things, his interests will be somewhat different than the integrated companies. But you see that the way they act frequently is the same as the majors. Take the outer continental shelf where we are going to find most of our domestic oil. There you see the independents and they compete very effectively against the majors, but they do so in groups.

Senator PROXMIRE. I know there is that distinction, but you talked of your survey of 19 of the biggest companies.

Mr. KRUEGER. Right.

Senator PROXMIRE. In the case of those major oil companies, is it not to their interest to have the price of oil remain high, or perhaps even go higher? There is no way they can lose. They are obviously not going to accept that higher price, they will pass it on, isn't that right? And also, whatever reserves they may have increase in value.

Mr. KRUEGER. I do not believe that is in their interest, Senator. The crisis showed one thing, and that is that the petroleum market in this country is not elastic. The higher price goes, the more people tend to conserve. The companies take the position—and it is well supported—that they are making less money now after that big inventory price adjustment, they are making less money now per barrel than they made before the crisis.

So, I do not believe there is any economic incentive for them to try to raise the price of petroleum. And I do not think there is any study which tends to support Mr. Lamont's theorem. As a matter of fact, most studies tend to disprove his theorem.

Senator PROXMIRE. Mr. Lamont would you care to respond?

Mr. LAMONT. I won't call it a theory; I call it a fact. I will give you a practical demonstration. When "Occi" started to produce in Libya—being solely a producer and not a refiner—that did disturb the hell out of international oil prices. When a very substantial amount of marginal oil came into the market in that particular place.

The second thing that I would observe is that anyone who tries to point to the precise level of profits of the oil companies as an indication as to whether or not they are achieving their purposes—their year-to-year profits—is in for some rather considerable frustration. As one friend of mine who had done a considerable amount of study of the petroleum industry succinctly stated, "The profit of an integrated oil company is the amount they can't hide."

If you look over time, and I mean any substantial period of time that you choose, you will find that the average return of the oil industry as a whole is very near to the center of that of the manufacturing industry as a whole. You will also find that the bulk of the major oil companies will have an individual rate of return which falls very close to that same line; it is really remarkably narrow.

The result is, I submit, to create a rather artificial picture. You get the impression that they would give this much to their stockholders by way of dividend, and no more; and that the real purpose of these perpetual corporations is essentially that of capital generating machines. It does not mean very much in that light whether you call the money flow which they generate, profit, or more capital return, or cash flow. The profits that can be scraped off that enormous cash stream by the individuals who control it—the banks and individual large stockholders—the amounts that can be had from the control of these large cash flows are really the whole purpose of the organization. It is not the making of a profit for an individual stockholder who will be perfectly happy if he gets his 15 percent this year, 14 last, and 16 next.

Senator PROXMIRE. My time is up, Mr. Chairman.

Chairman KENNEDY. Senator Javits.

Senator JAVITS. Well, Mr. Chairman, the discussion sounds very, very interesting, I am sorry I went to the ceremony. I would like to address the parties and perhaps get a little interaction. The two points

that interest me most are, one, apparently there is strong feeling by Mr. Lamont on divestiture, that bringing down the structure will create more competition.

That has certain problems for me because the history of the antitrust laws is that more competition does not necessarily mean better prices or better services. And the whole idea that people want to go to the mom and pop grocery store is completely unfounded, they want to go to the supermarket, notwithstanding that the supermarket that dominates the area dominates the price.

So, I will be very glad to hear Mr. Lamont's reasons why he feels that tougher competition is Alpha and Omega—it doesn't work out that way except in a model world.

Mr. LAMONT. I would take direct issue with your choice of the mom and pop grocery store versus the supermarket as being a demonstration of competition versus organization. What it is, is a different type of organization.

Surely, over the years the Antitrust Division and the Federal Trade Commission both have been extremely active in ending some rather extensive efforts by major grocery chains to dominate the market, and have been able pretty well to create a very competitive situation. That, I submit, is why when you go to a large supermarket you go there to buy groceries with a markup of 3, to 4, to 5 percent of profits as against your mom and pop stores markup of 25 percent because of their inefficiency. Competition does not mean inefficiency. On the contrary, in order to survive, only the efficient are capable of standing the struggle; that is the theory and that is the practice.

If we are ready now to abandon the principle of free enterprise, then I would suggest that it is incumbent upon this committee and the Congress to enact that specifically by statute, and not to do it as the present administration has been doing it—the present administration going back to at least 1968—by the exercise of "prosecutorial discretion", by simple nonenforcement.

Senator TAFT. Was the enforcement better before?

Mr. LAMONT. I can remember a brief period under Attorney General Brownell when we were able to raise a little hell with the oil companies. I remember a period between 1961 and 1963 when we were at least given permission to begin the process of investigation. Gradually after that, things began to sort of go to hell in a hand-basket; but there were brief periods in which antitrust enforcement has been allowed.

Senator JAVITS. Mr. Lamont, I gather you believe that the forces of competition provide adequate resources of capital, and adequate equipment and facilities, sufficient to service the public need automatically, by virtue of competition.

Mr. LAMONT. Not by virtue of competition, but by virtue of the fact that you have an enormous market for fuel. You sell fuel, and it doesn't actually matter much who is the salesman. Presumably, as long as he is reasonably efficient he will get back a substantial amount of what represents the capital investment.

I am saying simply, as long as profitable business is there, investment capital will be found.

Senator JAVITS. Now, I suppose these competitive factors which tend to break down smaller units, and the big expenses of duplication

of facilities tend to put prices up, rather than down; or do you envision such a possibility that prices can only go down under your system, they can't go up?

Mr. LAMONT. No, no; on the contrary. I would think prices would go up, down and sideways. I think one of the rather peculiar and inefficient characteristics of the present oil market is that you have an almost virtually unified top price for crude oils of vastly different refinability, vastly different economic worth. You have it that way because you do not have a really effective market.

Senator JAVITS. I will get to you gentlemen in a minute. I have only one more question I want to ask, a key question. Does your idea, sir, envision also—you said Congress should change the law if it does not want competition—that if the competitive system produces unsatisfactory results, if prices go up and away, which is unsatisfactory to the public, rather than down; or there are inadequacies of supply, or other problems, would you say that the Government then must step in and do what business has been unfit to do, if that kind of absolutely automatic competition is enforced?

Mr. LAMONT. Well, first of all, over time competition will tend to produce the lowest possible price for any particular kind of crude oil; that, I think, is a basic given, and I do not think even the most high-powered economist would quarrel with that.

Second, if over time the fact that ultimately we will run out of fossil fuels, if that forces the price up, then I would say simply that we are then observing the economic phenomenon that as prices go up in this kind of commodity, it justifies investment in competing or substitute commodities, and we will then be able to switch to the truly higher cost energy items.

Senator JAVITS. And you are willing to accept the risk of an adequate supply transition, which may not be as automatic as you think it will be. We will cast off into a pretty uncharted and stormy sea, if we abandon the present system.

Mr. LAMONT. Sir, I characterize myself as totally non-objective, but I would suggest this, that it would be a far more uncharted sea for us to put in the hands of some kind of Government monitor of an international energy effort, to put into their hands the total energy future of this Government. I do not believe that Government regulation is all that efficient. For instance, Mr. Krueger mentioned the Securities and Exchange Commission as being an excellent Government reguatory agency that has operated well over the years. I think he did not quite know that the only industry the SEC regulates is the investment industry, the exchange industry, not the companies which are registered on the exchange; and that, incidentally, as an aid to the Securities and Exchange Commission after the 1934 act was passed, the Congress found it necessary, useful and nondisruptive to pass the Public Utility Holding Company Act, forcing the divestiture of the public utility holding companies.

Senator JAVITS. Mr. Krueger.

Mr. KRUEGER. Yes; I would like to correct one factual point. Mr. Lamont said that we have essentially one price today of international crudes of all types, and that is not really true.

What OPEC does is peg its price that is agreed upon to what is called "benchmark" crude in Saudi Arabia. Each country then ap-

plies discounts, or takes a premium by virtue of the gravity, transportation benefits, and things of this kind. So, it simply is not true that we have one price for various kinds of oil.

The point I wish to make basically, which you were touching on, is that the independents and the smaller companies—and the smaller they are, the more true it is—have shown less ability to resist the terms of producer countries in the past than have the majors. You see this in Indonesia where a very small independent established the production-sharing concept, and it was a breakthrough for producers.

So, I am saying, if the goal is to have a favorable impact for our consumers and the consumers for other consumer nations in the foreign markets, we don't do it by creating a bunch of smaller companies. We do it by investing our companies of all sizes—they come in every shape and variety and we have a hundred of them in international petroleum—by investing them with a sufficient U.S. presence. We do it by establishing a sufficient U.S. informational base so that the producer countries and our companies know that they are not going to be able to go over and take just any set of terms, and pass them through to the American consumer.

Now, I am well aware of what the impact of the Securities Act of 1933 was, I simply mentioned it as being an instance in which regulation was used very beneficially to protect the American consumer, and to regulate an industry, the securities industry.

Senator JAVITS. Mr. Chairman, my time is up, if the Chair wishes, I would like to hear from Mr. Frankel.

Mr. FRANKEL. I believe, Senator, the queries which I would have had about Mr. Lamont's statement are really about the security by competition, that really being covered by your own intervention.

What I wanted to say about the different crude prices has been covered, but perhaps I can add one consideration, that in these different prices for the crude—as distinct from the main so-called marker crude of one type of Saudi Arabia—lies a certain amount of competition among the OPEC countries. This is quite clear from the difficulties OPEC had—that was confirmed in Bali now—in establishing a system—an automatic system of price differences. This is relevant, but it is not critical because the critical one is the marker crudes, the basic price.

We see the most competitive country in the OPEC setup, which is Iraq, and they would like to establish as high as possible a basic price, so that they can then give discounts on the higher price, the highest price they could think of.

I had a friend who was a real independent in earlier years, an independent oil operator, who used to say, "I like to underquote a high price" because underquoting of low prices is no fun.

So, I say again—I believe the Senator was not here when I said that—the comparison between the dog and the tail. The small operators, as important as they are, they are the fringe operators, whereas the centerpiece of the industry, very much as you, Senator, have described it, is formed by larger, usually integrated operators who provide what I call the baseload of the industry. If we do not want them to provide that, we have to find some other big units to do it, which essentially could only be the Government.

Senator JAVITS. Mr. Akins.

Mr. AKINS. I do not want to imply that bigness is good, and the bigger you get the more efficient you get.

Senator JAVITS. I agree.

Mr. AKINS. We have all seen examples of big business operating just as inefficiently and slowly as big government. In fact, large oil companies in many ways remind me of the State Department. [Laughter.]

The lack of curiosity, the insensitivity, the inability to react. When you talk about breaking up the industry, breaking it up into marketing units, or refining units, or exploration units and nothing more, that is what frightens me because that is what I think will result in higher prices, greater inefficiency, and an almost total loss of bargaining power dealing with OPEC.

If one of the large oil companies, for example, were broken up into five or more totally integrated companies, all competing against each other, a very real case could be made that it will increase efficiency.

Senator JAVITS. Thank you very much. Thank you, Mr. Chairman.

Chairman KENNEDY. Let me ask the witnesses as to their reaction as to the degree of common interest between major oil companies operating in the OPEC nations and the legitimate U.S. energy interest in those same countries. The question is, are these interests identical, substantially the same. What would be your comment or experience on that issue?

Mr. AKINS. Well, I think there is no doubt there are identical interests as far as supplies. We want the oil made available and they have to have it available in order to survive as companies. On the price it is less clear. I do not believe the companies have a great interest in raising prices, but they may not have an interest in lowering prices. I assume—and this may not be correct—but I have assumed that U.S. policy is to decrease prices.

Chairman KENNEDY. You assume what?

Mr. AKINS. I assume that U.S. policy is to bring down oil prices.

Chairman KENNEDY. Do the others have any comments? Do you agree that these major corporations will be acting and responding to the interests of the stockholders versus the consumer?

Mr. KRUEGER. Mr. Chairman, I would agree with what M. Akins said with this qualification, in viewing our companies, the large multinational companies, you have to look at their responsibilities, their commitments, and their interests on a global basis—that is the way they are, that is the way they have been created. So, in terms of their evaluation of their priorities, their commitments, they have to look not just at those to the United States, but to virtually every consuming country in the world, and to that extent their interests may not be consistent with all U.S. interests.

On the other hand, that depends on how you assess U.S. interests. The maintenance of Caltex's marketing operations in the Far East, which serves nations both friendly and perhaps some not so friendly to the United States, is probably in the broader sense in our best interest, but it may not exactly be coterminous with the priorities that we would give to our own consumers.

I think that if you look at this global commitment of the multinationals, you have to conclude that we have no assurance that their

actions will necessarily be in the U.S. interest. That was one of the principal reasons that I recommend regulations—to know what they are doing and to have some basis for assessing their actions in the light of our policy objectives, many which, of course, are inconsistent among themselves.

Chairman KENNEDY. Thank you.

Mr. FRANKEL. Mr. Chairman, this again is semantics, what is the interest of the United States; is there only one type of interest? There may be a short-term interest and a long-term interest which may be different. Incidentally, you can transpose all that to the companies. Their short-term interest is optimization by margin; their long-term interest probably security of tenure.

Now, transpose that back to the United States. The short-term interest of the consumer is the lowest price; the long-term interest is security of supply, to which Senator Javits has referred.

So, I think there is no one answer to that question, it needs determination what the policies really are.

Chairman KENNEDY. In terms of Government policy, there are obviously a number of things which would have an important impact on the functioning—the workings of multinational corporations, such as tax policies or antitrust policies.

Can you give us any kind of insight as to those matters, if we were to change them, what it would do to the multinational or major companies, their ability to compete with other multinational companies. If we do something in that regard, how much of an impact will this really have in terms of their ability to be able to compete with other major petroleum corporations?

Mr. FRANKEL. Mr. Chairman, I think my concluding statement would be that we have to recognize that the major international companies themselves are going to change in the different climate which the world provides for them. As they have lost the control of the low-cost crude oil which they had for 20 to 25 years, they will probably be much less interested in remaining the global operators, as we have known them so far. Therefore, there the problems will probably not be between big and small corporations, and certainly not that of a great number of small corporations because there will not be enough profitability for their emergence, but it will be the national companies of the various countries which will play an increasing role in the future development. Both national companies of producing countries and national companies of other importing countries.

I think we should not overrate the future power of transnational oil companies, even if they now control the traffic in the plain; they will probably relinguish some of it deliberately because they will work on the system of profit centers and try to optimize by concentrating their operations in the most profitable countries and the most profitable operations.

It is toward this changing character of the international companies which will lose them, by their own volition, the character of universal purveyors of oil internationally. We must watch the new developments which are already visible outside the United States, and draw certain conclusions for the policy or nonpolicy of the United States which would be adequate.

Mr. KRUEGER. Mr. Chairman, insofar as removing, amending, or doing away with the incentives for international production, such as foreign tax credits and intangible drilling costs allowance, these would have literally no effect on the price in foreign markets. The only effect they might have would be to remove potentially some of our companies from competition, if they are competing against companies from other countries which are subsidized or have comparable competitive advantages.

Chairman KENNEDY. How big a problem is that?

Mr. KRUEGER. Well, I would say that most of the, say, British Petroleum, Royal Dutch Shell, CFP, most of the countries in one form or another have something similar to the drilling allowance and foreign tax credits. So, if these were modified or removed, it would have an impact.

I think the major point, though, insofar as future planning, is concerned, is the one that Mr. Frankel commented upon, and that is we are seeing a changing role of the companies from having equity oil, vested tenure, to becoming price takers. It appears to be coming out of the Aramco discussions that they are going to be getting actually a crude per barrel lifting cost to bring the oil up for Saudi Arabia.

Now, when they do begin to be just contractors and purchasers, it should be something that is carefully monitored to see what form, new form of regulations, what new form of incentives we should give to our companies. I was interested to hear that the General Accounting Office is concentrating on that work in its study.

Chairman KENNEDY. Mr. Akins.

Mr. AKINS. When we come to the point where OPEC has moved to a 100-percent participation, that is complete takeover—and they are all moving in that direction now, then the companies which lift oil are going to be buying from state companies; they will be given some discount for carrying out the operations. That will be true in Saudi Arabia, in Kuwait, and elsewhere. There is, as far as I can see, no way they could get tax credits for this—not Exxon, not Mobil, not Shell, not BP and not CFP. The payments to government are not taxes; they are payments set by the government and they are given a discount for the services they are performing. If they make a profit in refining and selling this oil, that profit is taxed.

The same goes for the intangible drilling costs, the foreign companies are working for national companies and I don't see how such gimmicks could be utilized.

Now, if the foreign governments have different interpretations; if the French, the British, and the Dutch give their companies, in effect, a subsidy to operate in the Middle East, that will be something else. I think that would be something we could take up with those governments on the diplomatic level.

Chairman KENNEDY. Mr. Lamont.

Mr. LAMONT. Mr. Chairman, I would like to add just one small caveat. The specter of a 100-percent participation by the OPEC countries is something that has been held before our eyes since 1973 but has never quite taken place. I personally do not think that the OPEC countries will be idiotic enough to do that; or if they did, that they would then at least retain the former participants as sole agents at a rather substantial discount price.

The OPEC countries individually have watched our domestic experience in prorationing long enough to know that only so long as the producer and the buyer have a common interest can you maintain a high, stable price for crude oil that is so very considerably above the cost of production.

Chairman KENNEDY. Thank you, Mr. Lamont.

Mr. Akins.

Mr. AKINS. I have to comment. That is wrong. The countries in OPEC are definitely going to move toward 100-percent participation, they already have in Kuwait and Venezuela; they are going to in Saudi Arabia. A few months ago, 6 months ago, I believed that they might well stop before reaching a 100-percent participation. But this was wrong; the move right now is irresistible and it is going to continue.

Chairman KENNEDY. As Senator Javits said, we have to recess, we have a live quorum.

We want to thank you very much, this has been a very, very helpful and informative session this morning and we want to thank you all very much.

Senator JAVITS. On behalf of the minority I would like to thank the witnesses.

Chairman KENNEDY. The hearing is recessed.

[Whereupon, at 12:30 p.m., the subcommittee recessed, to reconvene at 10 a.m., June 8, 1976.]

MULTINATIONAL OIL COMPANIES AND OPEC: IMPLICATIONS FOR U.S. POLICY

TUESDAY, JUNE 8, 1976

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ENERGY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to recess, at 10:10 a.m., in room 1114, Dirksen Senate Office Building, Hon. Edward M. Kennedy (chairman of the subcommittee) presiding.

Present: Senators Kennedy, Javits, Percy, and Taft; and Representative Brown of Ohio.

Also present: John G. Stewart, subcommittee professional staff member; Sarah Jackson, professional staff member; Michael J. Runde, administrative assistant; and Charles H. Bradford, senior minority economist.

OPENING STATEMENT OF CHAIRMAN KENNEDY

Chairman KENNEDY. The subcommittee will come to order.

This is the third of 3 days of hearings before the Subcommittee on Energy of the Joint Economics Committee. We are examining the implications for U.S. energy policy of the evolving relationships between multinational oil companies and OPEC.

Last week we heard interesting and useful testimony from oil company executives and from nongovernmental experts with particular understanding of the international oil markets. Today we will hear from representatives of the administration: Elliot S. Richardson, Secretary of Commerce and Chairman of the Energy Resources Council; Charles W. Robinson, Deputy Secretary of State; and Frank G. Zarb, Administrator of the Federal Energy Administration. I am happy to welcome you gentlemen here today.

The subcommittee has no illusions that the issues before us can be resolved with pat answers or gimmicks. We also recognize that the United States cannot, and should not, simply impose solutions in this complex and changing area of international politics and economics.

But we can expect that the assumptions of the U.S. Government about the nature of American interests in relation to the international oil market will be based on the realities of today's world, not those of the 1950's and 1960's.

The Senate Subcommittee on Multinational Corporations, chaired by Senator Church, identified two assumptions that traditionally guided U. S. policy: Namely, that the multinational oil companies

could be used as vehicles of U.S. foreign policy and that U.S. interests were largely identical with those of the oil companies. These assumptions were shattered by the revolutionary events of the early 1970's that transferred control of oil from the concessionary companies to the producing nations.

But the sometimes confusing and contradictory responses of our Government to OPEC and to the drastic increase in world oil prices suggest that a new set of assumptions, appropriate to today's world, has yet to be defined. We heard testimony last week that both oil producing countries and the oil companies were often confused by the policy signals coming from Washington. Similar confusion has existed here on Capitol Hill.

What, then, are the basic assumptions on which the U.S. Government operates in formulating policies that presumably protect vital American interests. Are these assumptions valid?

For example, what role, if any, should the U.S. Government play in negotiations between oil companies and producing countries over the terms of access to crude oil? To take a current example, how are U.S. interests being protected in the current negotiations between Saudi Arabia and Aramco? Are we to assume that whatever deal the Aramco partners work out with the Saudis is, by definition, in America's best interest?

What is the administration's posture regarding crude oil prices in international trade? It appears to be true that OPEC's weight in oil markets means that it will have great latitude in setting prices until such time as increased conservation and alternative supplies shift the terms of energy markets. But even within the limits of action on price, does the administration actively pursue, or plan to pursue, economic or political initiatives which have the goal or applying downward price pressure? Can we realistically expect the companies to play an active role in achieving this goal? Last week we heard testimony that raised doubts about the administration's real commitment to securing lower prices, and that also pointed out the stake that oil companies have in avoiding sharp decreases in oil prices. How much leverage over price might the U.S. Government be able to apply if it controlled oil imports through a secret auction or some other mechanism for centralized purchasing of imported oil?

In today's world, it is realistic to expect greater pressure from the companies for more attractive oil prices by working with one or another OPEC country, and reducing access to the mass markets of the industrialized countries for the others? Could this indeed be done? Is this pressure more likely to be achieved through collective action by the companies, operating with U.S. Government support, or through greater competition among the companies by separating their production, transportation, refining, and marketing subsidiaries? And if we were to act, is there any chance that we would be joined by Western Europe and Japan?

Beyond these considerations of supply and price, discussions of international energy policy must necessarily take on a wider political significance. OPEC is now a major political force. Some of its members, through OPEC, are involved in the longstanding conflict between Israel and the Arab States; and all are now important in rela-

tions between rich and poor countries. Do these political factors enter into the relations between producing countries and U.S. oil companies? What happens if the economic interests of the companies run counter to U.S. political interests?

Furthermore, is the International Energy Agency—the rich consuming nations group—capable of taking over many of the responsibilities traditionally carried out by the multinational oil companies, particularly in the event of another embargo? Also, how do our negotiations at Paris—in the Conference on International Economic Cooperation—affect the U.S. goal of securing adequate supplies of foreign crude oil at reasonable prices? And what role could we expect the companies to play in the event of a future embargo?

There are, in addition, a number of shorter-term issues we would like to explore today.

What is the U.S. Government's view of the pricing decisions taken by OPEC at its recent meeting in Indonesia? What can we expect in the way of future price levels?

In regard to the strategic reserves established last year, is the U.S. Government planning, or would it consider, negotiating direct purchases of oil from producing countries? What role, if any, would the multinational companies play in these transactions?

What view does the U.S. Government take of the barter negotiations reportedly going on between Iran and several U.S. weapons manufacturers? How would such deals affect not only the price of imported oil but also the level of armaments in this critical area of the world?

There are, in short, many vital issues, both long and short term, that we hope to explore today. Given the official positions of our three administration witnesses, along with their broad personal knowledge and experience in these matters, we hope to receive some authoritative answers.

We are looking forward to the testimony of two spokespersons of the administration who have very special responsibility in the area we are interested in, the Secretary of Commerce, Elliot L. Richardson, and the Director of the Federal Energy Office, Frank Zarb. We want to extend a very warm welcome to both of these distinguished persons.

Just as an opening comment, Mr. Secretary, the areas that we are interested in, I am sure you are aware of. We wrote to you and outlined them, indicating what we wanted to hear from the administration. We want to try and ascertain whether the oil companies themselves, who are dealing with the oil-producing states, are representing the general American interests; where these interests are parallel, where they are in conflict; what the administration's policy really is in terms of protecting the American consumers. The Krueger report made a number of recommendations, stressing various alternatives, which hopefully in the time we have available we will be able to get into in some detail, recommending a more forceful role by the Federal Government in these negotiations. So we want to ask you: What should be the role of the Government in these negotiations? How much information should be available to the Government? Should we waive or moderate the antitrust laws as they apply to the major oil companies as they try to negotiate a lower price?

How do you view the oil companies' attitude toward lower or higher price? We heard from a distinguished spokesperson for an oil company who said their general interests are lower prices because they are interested, obviously, in the situation of the American economy. They do not have sizeable oil reserves here in the United States—that was rather an exceptional oil company, most of the other major oil companies do—and can we expect that they are really going to bargain hard and tough in terms of oil prices? We know that the value of their reserves increases dramatically with every increase in the oil price.

Can they bargain hard and tough with these OPEC countries when they are risking their own contracts, and should we expect them to do so?

So, how is the interest of the American consumer being protected by governmental policy in this whole host of different relationships which exist between the oil companies and the oil-producing states? Should we provide more tax incentives for oil companies who are exploring for oil in non-OPEC states?

We have listed a number of questions, and we look forward to hearing from you this morning.

I will ask Senator Taft if he would like to make any comments.

Senator TAFT. Thank you very much, Mr. Chairman. We may want to put in a statement at the beginning, but I would just like to emphasize some issues I think are very much in the public's mind today in relationship to this entire area, and hope that the witnesses testimony will cover some of these items that are much in public discussion.

They relate, of course, principally to the whole question of divestiture and the direction of consumption that is occurring in this country. And just to mention some of the specific tie-ins that I think would be appropriate to comment on would be what the capital needs, formation of capital problems are in the industry today; what the profit levels really are insofar as the relationship to that capital need area is concerned; what the results of a divestiture policy would be; what are the most promising steps, or what are the principal dangers insofar as conservation is concerned, relating it, if possible, to alternative energy sources; and what is truly in the consumers' long-range interest insofar as these areas of concern are involved.

Thank you, Mr. Chairman.

Chairman KENNEDY. We will get started, I know you have to leave here at 10:45. We hope that Mr. Zarb can stay on just a bit longer.

Mr. ZARB. I have to be at the same meeting.

Chairman KENNEDY. We will then hear from Mr. Charles W. Robinson, Deputy Secretary of State. Mr. Secretary, we look forward to hearing from you later this morning.

STATEMENT OF HON. ELLIOT L. RICHARDSON, SECRETARY OF COMMERCE, ACCOMPANIED BY FRANK HODSOLL, DEPUTY ASSISTANT SECRETARY FOR ENERGY AND STRATEGIC RESOURCES POLICY; AND ROBERT SHEPHERD, DIRECTOR, OFFICE OF ENERGY PROGRAMS

Mr. RICHARDSON. Thank you very much, Mr. Chairman, and Senator Taft.

May I first introduce Robert Shepherd, Director, Office of Energy Programs, and Frank Hodsoll, Deputy Assistant Secretary for Energy and Strategic Resources Policy. I would like to ask, Mr. Chairman, that my statement appear in the record as if read in full. However, in the interest of time, I will simply review with you here the high points that it covers.

First of all, I would like to point out that immediately following my own testimony, FEA Administrator Frank Zarb will give the subcommittee an overview of what we are attempting to do to reduce U.S. energy vulnerability and the role of the international oil companies. Deputy Secretary of State Robinson, will deal with international efforts to reconcile the interests of both the oil-producing and consuming nations; he will also discuss the role of the international oil companies.

My statement summarizes the key factual elements of the overall situation, including the market power of the oil-exporting countries; the need for a major effort to hold the line on imports; the dependency of Western Europe and Japan on OPEC imported oil, and their vulnerability to OPEC market power; and the impact of high oil prices on non-oil-producing developing countries.

The U.S. situation is that we currently import 38 percent of the oil we consume, compared with 23.2 percent in 1970 and FEA estimates that total energy consumption will rise by only 2.7 percent a year over the next decade, in contrast to the 3.2 percent a year rate over the last decade. This trend alone may result in substantially lower levels of U.S. oil imports to 1980 and 1985 than would otherwise have been the case. But we will also need to implement all elements of the President's program if we are to prevent imports from continuing to increase well into the 1980s.

According to the predictions contained in the "National Energy Outlook," published by FEA in February this year, U.S. demand for all energy should rise from about 71 quads in 1975 to a level somewhere between 93 and 99 quads in 1985, depending on our approach to resources development and energy conservation.

So, to hold the line on imports to approximately the present level, we will have to increase total domestic production of all types of energy by a factor of somewhere between 38 and 48 percent over what we are producing today.

The next few points cover the dependency of the developed countries and the problem of the impact of high oil prices on the non-oil-producing developing countries.

There is at present an ample oil supply for those willing to pay the price. However, oil supply is subject both to curtailment and embargo as we learned in 1973. Thus, the adequacy of oil supplies depends largely upon our continuing normal commercial relationships with OPEC nations and the degree to which Middle East politics remain relatively stable.

Touching on the problem of price, it is clear that the OPEC countries do have enormous control. But it is not in their interest to increase oil prices to the point where such increase would cause major economic disruptions in the world. OPEC countries now have substantial investments in the industrialized world and increased inflation

and/or recession in the industrialized world will affect those investments as well as make it more expensive for them to implement what in some cases are extensive development plans.

The conclusions that my testimony deals with start with the point that we do not anticipate any major reduction in oil prices; nor can we be confident that access to oil supplies will not again be used as a political weapon. We must therefore seek to reduce our vulnerability through the measures embodied in the President's domestic energy program, which are here summarized.

Whatever improvements we may be able to achieve with respect to our own energy dependence, it is clear that certain of our friends in Western Europe and Japan will not be able to significantly improve their positions. The second major thrust of our policy is, therefore, to cooperate with them in developing mutually agreed policies and programs.

Finally, we must also maintain and build on the framework of cooperation we have with the OPEC nations themselves. We are doing this in the Energy Commission of the Conference on International Economic Cooperation (CIEC) and elsewhere. The recent OPEC Conference at Bali is encouraging and the President has stated the Bali "decision was a reasonable one for the world's economy which is just beginning to recover from recession and adjust to existing oil prices."

In conclusion we stress the importance of moving forward with the President's legislative initiatives to deregulate the wellhead price of new natural gas; expedite delivery of natural gas from Alaska's North Slope; provide for an insulation tax credit; create an "Energy Independence Authority"; provide for synthetic fuels loan guarantees; amend the Clean Air Act; enact the Nuclear Fuel Assurance Act, and extend the charter of FEA.

We look forward to working with this subcommittee and the Congress in a spirit of compromise so that we might in this session, move the country forward in attaining its energy goal of reduced vulnerability to future supply disruption and arbitrary price increases. We must also continue to collaborate with other consuming nations and strengthen the framework of cooperation we have with the OPEC nations.

I suppose after Mr. Zarb's summary or submission we would both be ready for your questions. Thank you.

Chairman KENNEDY. Your prepared statement will be printed in the hearing record, Mr. Secretary. Thank you.

[The prepared statement of the Mr. Richardson follows:]

PREPARED STATEMENT OF HON. ELLIOT L. RICHARDSON

Mr. Chairman: It is a great pleasure for the Administration to appear before your Committee to testify in connection with the need for a coherent and consistent international energy policy that protects the nation's vital interests. We agree that there is a need for a dialogue on this subject, and for that reason I welcome the opportunity to appear here today.

As Chairman of the Energy Resources Council, I propose to discuss with you the general international energy picture and the nature of our dependence and the dependence of the developed and developing consuming countries on foreign oil. I will also attempt to analyze the nature of our vulnerability with respect to both oil supply and oil price and draw some conclusions from this factual background.

FEA Administrator Frank Zarb will give you an overview of what we are attempting to do to reduce U.S. energy vulnerability and the role of the international oil companies. Deputy Secretary of State Charles Robinson will give you an overview of the international efforts we are now engaged in to reconcile in an orderly way the interests of both oil producing and oil consuming nations. He will also discuss the role of the international oil companies. We are making separate submissions in response to the questions you raised in your letter.

A. FACTS

The market power of the oil exporting countries represented in the Organization of Petroleum Exporting Countries (OPEC countries) is enormous.

In the absence of enactment of the President's program and a major effort to hold the line, U.S. requirements for imported oil will probably rise over the next few years.

Our friends in Western Europe and Japan are even more vulnerable to OPEC market power than we.

The impact of high oil prices on most non-oil-producing developing countries is even greater than its effect on either us or the other industrialized countries.

1. *OPEC country control of oil*

OPEC countries control roughly 70 percent of the world's proven oil reserves and 70 percent of current productive capacity, while supplying almost 80 percent of our oil imports and nearly 90 percent of the oil imports of Western Europe and Japan. Clearly these facts are the basis for the enormous market power of OPEC countries. At the same time, their market power is dependent on their ability to maintain market solidarity despite the wide divergencies in their economic, political and social structures. While historically the major oil producing countries have tended to bid against each other for the markets for their oil, the success of the 1973 embargo and price hike have shown them the benefits of a cartel policy. OPEC countries have in effect gained a sense of confidence in their ability to act as a bloc.

Among the OPEC nations, the key to market solidarity is Saudi Arabia which alone accounts for 17 percent of the world's reserves. When one adds Kuwait, the Saudi-Kuwait share accounts for 32 percent. These two countries can afford not to ship the maximum amount of oil they can produce, because their current development needs do not require all the revenues that would result from maximum production. Thus, their willingness to restrain their own production and not flood the market, which would drive down prices, is fundamental to OPEC country market power.

The position of Saudi Arabia also provides it with leverage vis-a-vis its OPEC partners to hold down price increases. It would appear that last week's OPEC action at Bali in not increasing prices was in large part due to the desire by Saudi Arabia, Iran and other key producers to opt for moderation during a period when world economies are still recovering from recession.

On the other hand, there is no assurance that these key producers will continue to be willing to exercise a moderating role with respect to price while global demand for OPEC oil is increasing. Any prudent planner must take into account the distinct possibility that OPEC political and economic cohesion will not substantially decrease for many years. Nor can we count on oil finds in other countries substantially altering this situation.

2. *U.S. vulnerability*

The United States currently imports 38 percent of its oil consumption compared with only 23.2 percent in 1970. Because of higher prices and recently adopted conservation programs, U.S. energy demand is growing at a lower rate than prior to the 1973 embargo. FEA estimates that total energy consumption will rise by only 2.7 percent per year over the next decade in contrast to the 3.2 percent rate of the last decade.

This trend alone may result in substantially lower levels of U.S. oil imports to 1980 and 1985 than would otherwise have been the case. But we will also need to implement all elements of the President's program if we are to prevent imports from continuing to increase well into the 1980's. This conclusion is based on our appreciation of the long lead times required to develop new sources of energy supply, to change industrial processes and consumer habits, and to insure the capital and investments necessary to effect greater energy efficiency.

To summarize, we have a herculean task ahead of us if we are to simply hold imports at their current levels, let alone reduce them significantly over the next ten years. The outlook in this respect has been summarized in both the President's Energy Message to Congress last February and in the National Energy Outlook for 1976 which was published by FEA in the same month.

According to the projections continued in the latter report, U.S. demand for all energy should rise from about 71 quads in 1975 to a level somewhere between 93 and 99 quads in 1985, depending on our approach to resources development and energy conservation. Now, if we wish to hold our imports to 1975 levels of about 6 million barrels per day, and if we take the lowest of the FEA projections, we would have to produce an additional 22 quads from domestic sources during the next ten years. If we take the high side of the FEA projections, it would call for an increase of about 28 quads from domestic sources.

To put this another way, it means increasing total domestic production of all types of energy by a factor of somewhere between 38 and 48 percent over what we are producing today.

These figures, of course, are those required for a net increase in production. In fact, as you all know, we would actually have to produce from new sources considerably more because production from our known and currently producing oil and gas fields is declining.

3. *Dependence of other Western industrialized countries*

While this picture may appear grim for Americans, it is even grimmer for most of the other major consuming nations. Their dependence on OPEC oil is much greater than ours. For example, 97 percent of Japan's energy demand is attributable to imports; over 90 percent of Japan's petroleum needs come from OPEC countries. The vulnerability of these countries will thus remain higher than ours. Although some of these countries (particularly the U.K. and Norway) will be helped as North Sea oil production is developed, the dependence of these countries as a group will remain high. We cannot, in my view, divorce ourselves from these countries with whom we have such close political, economic and cultural ties. It was for this reason that we initiated the International Energy Agency.

4. *Impact of high oil prices on the non-oil LDCs*

While the economies of the developed countries, including the United States, were shaken by the fourfold rise in OPEC oil prices, the plight of the developing countries with little or no oil resources and limited foreign exchange is much worse.

These countries have been hit in two ways. First, directly, they are paying higher prices for their oil imports. We estimate that the 1973–74 oil price rise added nearly $9 billion to these nations' 1975 requirements for foreign exchange. Second, indirectly, they have suffered a loss of perhaps $20 billion more due to the fall in demand for their exports and due to increased costs of non-oil imports brought on by higher oil prices in the industrialized countries.

To sum up, it is probable that the economic growth of these developing countries has been seriously retarded. This is contrary to our interests as well as theirs.

B. ANALYSIS

Any analysis of these facts, it seems to me, must differentiate between the problems of supply and the problems of price.

1. *Supply*

There is at present ample oil supply for those willing to pay the price. However, oil supply is subject both to curtailment and embargo as we learned in 1973. Thus, the adequacy of oil supplies depends largely upon our continuing normal commercial relationships with OPEC nations and the degree to which Middle East politics remain relatively stable.

The problem of price is also a difficult one. The OPEC countries unquestionably have enormous control. However, it is not in the interest of OPEC countries to increase oil prices to the point where such increase would cause major economic disruptions in the world. OPEC countries now have substantial investments in the industrialized world, and increased inflation and/or recession in the industrialized world will affect those investments as well as make it more expensive for them to implement what in some cases are extensive development plans.

OPEC countries also have an interest in maintaining friendly political relationships with Western countries including the United States. Further, to the extent that Saudi Arabia can, as I have noted, cause reductions in world oil prices by expanding its production, it can exert considerable pressure on other OPEC countries to limit price increases.

Finally, over the long term, to the extent that the United States as a major consumer is able to reduce its requirements for imported oil, OPEC countries faced with the need to shut in their surplus to a greater extent to maintain high prices could be expected to reduce the rate of growth in prices and allow production to meet reasonable world demands.

C. CONCLUSIONS

1. Given the enormous market power that OPEC nations have with respect to oil, and the fact that this market power is unlikely to diminish appreciably in the near term, we do not anticipate any major reduction in oil prices. Nor can we be confident that access to oil supplies will not again be used as a political weapon.

2. Our primary thrust must be to reduce our vulnerability to foreign control over energy prices and supply. This is the President's policy as set out in his Energy Message earlier this year. As you know, the President has proposed a domestic energy program with five main elements:

1. Maximize energy conservation.
2. Fully develop domestic oil and gas reserves.
3. Double domestic coal production.
4. Substantially increase our nuclear power capacity.
5. Complete a national pretroleum storage program and develop other standby capabilities.

The Energy Policy and Conservation Act of 1975 (EPCA) clearly does not meet the President's goals. It is, nevertheless, our hope that we can build on the several energy bills currently pending before the Congress to deal with some of the other major issues which we feel must be addressed if we are to provide a focus to our national energy policy and reduce our dependence on foreign energy sources.

3. Whatever improvements we may be able to achieve with respect to our own energy dependence—as I have pointed out, we may be more dependent on oil imports in the future than today—it is clear that certain of our friends in Western Europe and Japan will not be able significantly to improve their positions. The second major thrust of our policy is, therefore, to cooperate with other industrialized consumer nations in developing mutually agreed policies and programs. We have, as you know, in the International Energy Agency achieved agreement on an Emergency Allocation Program, and a long-term program of energy cooperation.

4. The non-oil-producing developing countries are seriously affected. The United States therefore proposes as a third thrust to its policy to assist developing countries to analyze their energy options, such as they are, and then to help them acquire the most advanced Western technologies to put any appropriate programs into effect.

We plan, with the support of other Commission members, to introduce a proposal for an International Energy Institute at a forthcoming meeting of the CIEC Energy Commission. The U.S. proposes to join with other countries in assisting non-oil developing countries in this effort.

5. Finally, we must also maintain and build on the framework of cooperation we have with the OPEC nations themselves. We are doing this in the Energy Commission of the Conference on International Economic Cooperation (CIEC) and elsewhere. The recent OPEC Conference at Bali is encouraging and the President has stated the Bali "decision was a reasonable one for the world's economy which is just beginning to recover from recession and adjust to existing oil prices." While this OPEC decision was reasonable, we intend to use every avenue to assure that OPEC will continue to exercise similar price moderation in the future.

The CIEC is meeting this week in Paris to continue considering the question of oil prices and to take up the question of availability of oil supply. Previously, we have discussed supply/demand projections as well as some aspects of prices, where we made a strong case for lower oil prices. We will continue to try to

use the energy dialogue to increase appreciation of all participants of their joint responsibility for global growth and stability. We will continue to try to demonstrate why their long term interests are best served by adequate, predictable supplies of oil at reasonable prices.

In conclusion then, Mr. Chairman, the international oil situation poses us many problems. We cannot and should not plan on the assumption that the cartel will fall apart. We cannot, without changing our way of life drastically, change the degree of our dependence on OPEC oil between now and 1980. What we can do is agree on a national energy policy with both domestic and international components and take vigorous measures to put it into effect. This will require resolution of key differences between Congress and the Administration.

Among the President's initiatives for which we are still awaiting final Congressional action are proposals to: (1) deregulate the wellhead price of new natural gas; (2) expedite delivery of natural gas from Alaska's North Slope; (3) provide for an insulation tax credit; (4) create an Energy Independence Authority; (5) provide for synthetic fuels loan guarantees; (6) amend the Clean Air Act; (7) enact the Nuclear Fuel Assurance Act; and (8) extend the charter of FEA.

I recognize that enactment of the kind of program that the President has recommended may call for a higher degree of public awareness concerning our energy problems than exists in the country today. While it may be correct to say that we do not presently have an energy crisis in this country—in the sense that Americans are by-and-large not faced with specific energy shortages today—it is certainly not correct to imply that our energy problems have been solved. The Administration and Congress both bear responsibility to help bring this awareness about.

For our part, we are prepared to work with you in a spirit of compromise so that we might this session move the country forward in attaining its energy goal of reduced vulnerability to future supply disruption and arbitrary price increases. We must also continue to collaborate with other consuming nations and strengthen the framework of cooperation we have with OPEC nations. We must in effect continue the dialogue. But we must also act.

Senator Percy [presiding]. Mr. Zarb, we welcome you. If you wish to summarize your statement, the full text will be included in the record.

STATEMENT OF HON. FRANK G. ZARB, ADMINISTRATOR, FEDERAL ENERGY ADMINISTRATION, ACCOMPANIED BY CLEMENT B. MALIN, ASSISTANT ADMINISTRATOR

Mr. Zarb. Good. I would appreciate it if the full text were incorporated, and I will summarize very quickly so that we can spend some time on questions.

Senator, it is important to put some of this discussion within the context of what is happening out there in terms of energy and oil supplies and consumption. The free world now uses 50 million barrels of of oil per day, some 60 percent of that oil comes from OPEC countries. The international oil industry keeps 800 million barrels of oil in the system and markets; 80 percent of that is OPEC production.

The United States consumes one-third of the world's daily production, which is a statistic in itself we could concentrate on.

At present U.S. imports are about 6½ million barrels per day, and 45 percent of that comes from Arab nations, compared with 22 percent just prior to the embargo. So, you can see that the vulnerability of this Nation to that situation has increased rather dramatically.

Our projections indicate that unless the President's program or something equal in terms of impact is implemented, our imports could exceed 10 million barrels a day by 1985, 55 percent of which would come from Arab sources.

The strategic storage system now being planned could give us a year's supply at the rate of 3-million barrels a day by 1985, if it is completed as the President and the Congress have envisioned it.

The OPEC, international oil companies and the United States all have a vital interest in what happens with respect to future policy in the oil world. The international oil companies once dominated supply, and therefore dominated price; and were United States or European companies. This meant secure supply, stable prices, and for the most part an assured access for a long time.

Now, that is no longer the case; that is quite clear. OPEC now controls the supply, it controls the price, and it seems to have every intention of using that control to its own best advantage. OPEC members have the only excess capacity in the world; they keep it shut in to maintain their control over supply and price, and they have thus far reflected little interest in competition.

OPEC cannot target embargoes, that is to select out several countries because of the way the oil system works; that was proven in 1973 and 1974. The flexibility of the existing corporate system, it seems to us, helps to ensure that that targeting cansot take place. This weakness in OPEC's overall control is vital, it seems to us, to consumer nations.

Now, companies do not proration for OPEC but work to the extent they can within the market to secure supply at low, stable prices. And when I say "to the extent they can" I emphasize that because it is clear that their capability to work in that sector has been significantly reduced in the last few years, and as every day goes by their leverage in that situation is even further lessened.

The international oil companies are important to OPEC in marketing, but they are also important to consumer nations with respect to supply security. If we envision changing that system, we ought to focus on that and make sure that whatever change we envision provides equal amounts of security.

It always gets down to about the same point, Mr. Chairman, there is no easy way to solve that problem. Divestiture legislation or some kind of tough talk from the State Department is not going to change the predicament we have gotten ourselves into. The situation we are in is very serious. The response of this Nation thus far in the last year and-a-half, while it has been constructive and for the most part positive, in terms of substantive results can only be called a joke. We have not taken the tough actions required in conservation and development of coal, and development of nuclear capacity, or in increase of gas supplies that we require as a Nation. Therein lie the real answers for success within the next 10 years.

If we introduce non-OPEC supplies of oil, including the United States' supplies of oil and gas, if we bring on alternative sources of energy, and we thus reduce the consumer nations' reliance on OPEC, that is the lever that will work, and nothing else in organizational shifts or other similar kinds of results are going to bring to the American people the benefits that we think they should have.

The President's program articulated a year and-a-half ago still seems to be the only program that gets the job done. We need it or something equivalent. Breaking up or regulating companies more heavily, it seems to us, just drives us in the opposite direction from

the success we are attempting to achieve. It seems to me before we take such action, such as divestiture, we had better be quite sure that it is going to achieve the results of more oil, more securely, at lesser prices for the American people, or we should not be taking that action and taking any risks in that regard.

I do want to reemphasize that if it can be shown that any reorganization will produce those results, this Administration would be in favor of it. At the moment we see no proof in that direction. This Nation, it seems, should benefit from any change, not suffer from it, and any proposed change should be evaluated with that yardstick.

Senator, that is the summary of my remarks.

Senator PERCY. Thank you, your prepared statement will be printed in the hearing record.

[The prepared statement of Mr. Zarb follows:]

PREPARED STATEMENT OF HON. FRANK G. ZARB

Mr. Chairman and members of the committee: It is a pleasure to be here today to discuss the implications for U.S. energy policy of the evolving relationships among OPEC governments, the international oil companies and the governments of major oil consuming countries. The questions you have raised deserve a good deal of attention, discussion and debate because they are important for the United States and for the international community as a whole.

Let me begin by setting the context: The present world energy situation, the interrelationships among OPEC, the companies and the consumer nations, and the outlook for the future. In short, what is the situation now, what are our goals and expectations, what changes might be contemplated to help us achieve our goals, and, conversely, what might be the impact of various other proposals for change?

Let's look at some of these questions.

The free world now uses about 50 million barrels of oil per day, some 60 percent of which is produced in OPEC nations. The international oil industry keeps 800 million barrels of oil moving at all times, and lifts, transports, refines, and markets nearly 80 percent or 9 billion barrels per year of OPEC oil for end-use consumption. The U.S. alone consumes about one-third of the world's daily oil production, about 16 MM B/D. Our total oil imports (crude and product) amount to 6.5 MM B/D currently, largely from OPEC sources. Further, U.S. crude imports from Arab nations have gone from about 22 percent before the 1973–1974 embargo to about 45 percent now. Saudi Arabia has been the Number 1 supplier of U.S. crude oil imports since November 1975 and was second for the whole of 1975.

The recent, widely publicized figures showing imports exceeding domestic production may be considered a fluke but they are indicative of an overall trend. The trend should be of concern. And it looks as if it is not going to be reversed quickly.

The President has proposed a program of conservation and resource development, which, if implemented, could give this country sufficient energy security initially by 1980 and more by 1985 to sustain a supply interruption with minimum economic disruption. Unless major portions of this program are adopted, however, FEA projections of future demand for OPEC oil indicate that the United States could be importing more than 10 MMB/D by 1985 if our policies to stimulate production and curtail demand are not enacted. It is also projected that as much as 55 percent of that projected total U.S. import demand come from Arab sources.

People might point out that this is the reason we now have a strategic storage system mandated. And it is. But if these trends become reality in 1985, then the storage program we are setting up may not be entirely sufficient. U.S. strategic reserves are scheduled to total approximately 325 million barrels by 1980 and 500 million barrels by 1985. At the projected import rates, the reserves would cover an import interruption of less than 2 MMB/D for 6 months in 1980, and about 5 MMB/D for 3 months for an import interruption in 1985. While this reserve would put us into much better shape than we were in 1973–74,

and while the international emergency program would help considerably, we cannot continue to follow these trends—unless we want to see our successors in these same seats in 1985 asking the same questions and giving more grim answers.

I mention these points because it is important to appreciate the significance of the extent to which the U.S. may have to depend on international supplies of oil in the future—if we are unwilling to commit this Nation to expand energy production, to reduce energy consumption, and to strive for a significant reduction in our level of imports. Under almost any circumstances, the role of the International Oil Companies may be crucial to the security of our import supplies and those of our allies.

Until recently, the world oil market was dominated by International Oil Companies headquartered in the U.S. and one or two other major consumer countries. Those conditions generally assured a secure supply of oil at predictable, low and stable prices, because under the concessions, the companies determined the rate of development and production as well as the price of crude marketed internationally. Moreover, international oil industry assured access to, and control over, excess production capacity in various oil producing countries, provided the supply security for the adequate, stable, uninterrupted volumes of petroleum so vital to the economic development of both the oil producers and consumers of the free world.

That control, together with the fact that the United States had an export capability, rendered the oil supply disruptions of the 1950's and 1960's ineffective and shortlived.

But some of these conditions have changed very significantly: The price, the terms of access to oil and the production levels for the international oil market are set by the OPEC member states. Their own national oil companies are moving to establish refineries and related facilities in their own countries to market petroleum products internationally. And a few have sought to invest in such operations, via joint ventures, in consuming countries. The United States is now a net oil importer; and while there is a substantial amount of excess production capacity in oil exporting countries, it is no longer under the control of the international companies. Moreover, the principal reason such excess production capacity exists is because the oil exporting countries have shut in one-fourth of their production to sustain a world price more than five times the 1973 level. These changes, as well as the relative dearth of alternative sources of supply mean that we can probably expect continued upward price pressure from OPEC and possibly even some production cutbacks—whether deliberate and selective or unavoidable and general.

But these changes notwithstanding, the international companies are still important to the commercial marketing of OPEC oil—and to that extent they continue to exercise some influence in that market. The embargo and production cutbacks 1973–1974 demonstrated the extent of OPEC control over world prices and over supply to the entire system; but that cutback in supply also demonstrated the inability of OPEC to control whether or not a specific national received oil. This is an important weakness in the capability of OPEC to selectively target production cutbacks on particular countries.

The role of the international companies is crucial to an understanding of the reason for that weakness; and their continued control and management of the international distribution and logistics system, as well as their equity interests in the refining and marketing of international oil, are the principal components of their role.

Now, having set the overall context, let's focus on some of the questions and implications raised by various proposals that have been set forth in your questions.

As far as the general question on price and supply, we must recognize that potential purchasers can enjoy lower OPEC prices only if OPEC nations compete with each other, or with other alternative suppliers, to sell more and more for less and less. Control over supply is the key, rather than the number of bidders in the market. OPEC members have not shown a great willingness to cut prices to compete with each other. If alternative non-OPEC sources of supply could be developed, then OPEC nations would face some greater degree of selling competition.

On the other hand, proposals for divestiture, for increased regulation, or import quotas (self-imposed embargoes) would not have the effect of increasing

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supply. And each of those could actually serve to reduce total world supply over the next few years because of financial or legal disruption to investment in exploration and development around the world and in this country. The issue of a U.S. import tariff, which you have also raised, was debated during much of 1975, and parts of that question remain to be decided by the Supreme Court. I do not think we need to go through the history of that debate for the record here.

I would like to make a few points about the concept of shore-line divestiture that you introduced in your list of questions and issues. First, though this may seem to be an alternative to vertical divestiture, we feel that it might also be a result of it. In other words, shore-line divestiture (of international affiliates from U.S. parent corporations) could conceivably be carried out by some of the companies themselves if their calculations of the impact of vertical divestiture indicated that would be the lesser of two evils.

To sketch the case quickly, of the 7 largest oil companies in the world: 5 are U.S. based, but only 15 percent (3.5 mmb/d) of their world total "controlled" production (22.6 mmb/d) is in the United States.

Only 23 percent (6 mmb/d) of their world total refining (25 mmb/d) is in the United States.

All depend heavily on OPEC crude even to supply the U.S. market.

Only a small part of the world tanker fleet is officially U.S. flag or U.S. owned, but a large part of the total fleet is effectively controlled (owned or long-term leased) by U.S. companies.

Thus the great bulk of the holdings of these companies (often thought to be "American" rather than international) is outside of the United States. We, the U.S. Government does exert considerable influence over those companies because they are headquartered here. We tax them, tell them how to allocate supplies, fix profit margins and transfer prices, tell them where and when they can look for oil, build refineries, merge with or exchange assets with other companies. And we can, and do, change many of the rules when we feel the Government and the American people will benefit. But if we force those same companies to divest the bulk of their assets, don't we also divest ourselves of the bulk of our real and potential control? It is worth asking whether or not U.S. interests would be served as the companies were weakened.

Where would the companies move? Canada? Britain? Norway? Japan? The Bahamas? Iran? Who is to say? The point is that those companies would have international markets in many other parts of the world, and would almost certainly have to rely heavily upon OPEC for production. Could they be persuaded to concentrate new resource development there? That would depend upon where the profits and long-term outlook would be best. But surely they would be lost to the control of the United States and perhaps that of other consuming countries. And surely the decisions of these "formerly American" companies would not be overly circumscribed by a feeling of great indebtedness to their former host country.

Further, since the last embargo, an International Energy Agency has been established and has put into place an International Emergency Program. This is a step of major national and international importance and one of the real accomplishments of the International Energy Agency. The Emergency Program depends upon the ability of the oil companies to manage supply and distribution, presently the main lines of defense in the event of another embargo or supply disruption. Is it the case that in future emergencies the limited supplies could still be directed as easily among separate International and U.S. companies as within single integrated firms? Would voluntary allocations by and within each company network be effective? Or would consumer nations be forced to rely on intermediate measures, or even perhaps or rationing and the other stringent mandatory actions called for in the Emergency Program? Would [illegible] of the measur[illegible]ective if the U.S. had given up its power and control over the compan[illegible]uld U.S. divestiture thus impact directly on the [illegible]ity and politic[illegible] interests of our IEA partners? There are [illegible] should be of [illegible]nd to our fello[illegible] of the IEA [illegible]rgo be

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works, if a much smaller part of the world tanker fleet were under effective U.S. control, and if there were no international oil companies with downstream market interests to protect in this country? Under the best conditions, at the very least the new international companies would have to be brought into the IEA—that is if they remained based within IEA countries rather than moving to OPEC nations.

Further, and on a different scale, it should be remembered that the new U.S. companies, though forced by divestiture to find new supply sources, would still seek assured access to supply. State oil companies of the producing countries and the integrated foreign oil companies could probably fulfill this role without being in illegal "control" of these refiners, but without necessarily sharing their interests in case of embargoes or policy conflicts. The production/service companies in the OPEC countries might not be able to fulfill the envisioned long-term supply offtake role through divested U.S. companies.

This would be important to nations as well as companies because, as I have said, the companies act as the vital linkage mechanism between OPEC and the consumers. But further, the impact on future markets could be considerable. ARAMCO, for instance, will be involved in between 20 and 25 percent of all OPEC oil exports. Saudi Arabia will have most of the excess production capacity in the world. The mere size of the reserves, the excess capacity, the size of the U.S. market, and the potential and proven ability of international integrated companies to allocate around "targeted" countries in an embargo make this a supply security consideration that could deteriorate if the companies were broken up. At the present stage of the negotiations, the owner-companies of ARAMCO are trying to get a supply commitment from Saudi Arabia. They are talking about 7 MMB/D or so.

If those companies are then cut off from or given sharply reduced access to U.S. markets, what will be the impact for U.S. supply security? Even if the ARAMCO partners don't buy so much, other companies may, of course—but will the price to them be higher or lower? What would a changed trade flow mean to our allies?

None of these questions can be answered with total certainty, and none of the potential outcomes can be predicted absolutely, but all must be weighed before any intelligent decision can be reached on the overall issues this committee has raised.

On these points, some might argue that the price is worth paying—that a greater U.S. Government role as a regulator or a purchaser for import, or conversely, that forcing arms-length dealings between U.S. refiners and OPEC may be advantageous. This is a critical judgment. It assumes either that: 1) a government body with no direct international oil experience in exploration, production, refining, negotiation or logistics could perform better somehow than the companies, and thus enhance our price or supply security position; or 2) that 18 or 22 or [illegible] other number of U.S. companies without involvement in producing countrie[illegible] [illegible] maintain or increase the degree of national and international supply se[illegible] and, at the same time drive a harder bargain on price with those governme[illegible] han the presently integrated firms.

Proba[illegible] of those assumptions actually rests on another, more basic assumptio[illegible] omehow, for some reason, the companies and OPEC really are in evil [illegible] to do harm to consuming governments and citizens. Anthony Sampso[illegible] his claim in his book The Seven Sisters. I am afraid that, as well as [illegible] d as smart a he may be, Mr. Sampson misunderstands the oil indu[illegible] ommerce and business in general.

With [illegible] successful prorationing of OPEC production re[illegible] Arabian peninsula producers—especially S[illegible] on disproportionately for the sake of the ca[illegible] oil—whether due to reduced demand o[illegible] the more costly and difficult become[illegible] re indirectly or directly alter total d[illegible] ment involv[illegible] would [illegible] hanged: What i[illegible] tel to them in maximizing the advant[illegible]

The [illegible] efforts to red[illegible] urces of sup[illegible] itional regula[illegible] nego-

tiations, or others—we must identify and evaluate both the domestic and international costs and benefits. We must consider the effects: on the U.S. and the IEA countries and our relationship with OPEC; on national and international supply security; and upon the price of oil in the world and in this country. And all of these questions must be answered in the context of the world supply/demand outlook for the next decade or beyond. This is what we tried to do when we worked to put together the Administration's energy program. We feel that alternative programs must be expanded as rigorously and must pass that same tests.

Our assessment of a number of alternative government-industry relationships indicates that the benefits are often difficult to find, though the costs are potentially very great. Most of the alternatives would do nothing to increase domestic production or even to diversify our sources of imported oil. Most would probably induce conservation only to the degree that their higher costs would do so. And at the same time, our domestic production would continue to decline.

This assessment is not meant to indicate that there are no conditions under which I would favor legislative or organizational changes in the relationship between the U.S. Government and the international oil companies. As I have tried to point out, my major concern is that any proposal be evaluated so that any change can be clearly demonstrated to be a change for the better. I am afraid that the proponents of the various alternatives have yet to make that case. I feel that the Administration's energy program has had that case made. Now we must move to implement it be taking the next series of steps beyond the EPCA.

I would be happy to answer any questions you may have.

Chairman KENNEDY [presiding]. I apologize for my absence but we are having a number of rollcall votes on the Senate floor today. I think you understand the situation. I know we are very short on time.

In your prepared statement, Mr. Secretary you say—

To summarize, we have a herculean task ahead of us if we are to simply hold imports at their current levels and reduce them significantly over the next 10 years.

I think that is a fair observation and statement. Don't you think it is about time that we stop using "Energy Independence by 1985," and that those words ought to just be tucked away in a safe pigeonhole and not be held out to the American people as a realistic policy objective?

Mr. RICHARDSON. I certainly think that—and Mr. Zarb could expand on this—it is conceivable that you could get down imports of, to, say, 2 million barrels a day, but I also think it is fair to say this kind of target would be unrealistic.

The question is: How do you characterize the goal of holding the line at 6 million barrels a day, or approximately at the present level? If we have measures that will help us hold the import line of 6 million barrels a day including the increase in coal production, the increase in nuclear energy production, and the strategic reserves that are contemplated, could it then be said that we have something like independence? Would we have achieved our goal?

In any event, however we characterize the objective, I would certainly agree that we have to begin with a very realistic appraisal of where we are, and where it is feasible to hope that we may be able to go.

Chairman KENNEDY. That certainly would not include being energy independent by 1985, would it? Perhaps later on in the century, but not by 1985. I just think for the American people really to understand what the realistic situation is, people should not be talking about energy independence by 1985. That is very unrealistic and misleading.

I think all of us are sufficiently aware that when the statement was made, and the extraordinary response by the American public, it had

a very popular ring to it in terms of the independence aspect of it, particularly this election year.

But on the basis of your own testimony and statement, and certainly having listened to Frank Zarb about what are the realistic possibilities in the area of conservation and alternative sources of energy, and what it would cost in terms of capital outlays and other costs, energy independence is totally unrealistic. That is just a fact.

I would hope that we could put that sort of a slogan aside. It seems to me that that, in effect, is what your testimony does, not explicitly, but implicitly.

Mr. RICHARDSON. If we simply put it aside, Mr. Chairman, I am afraid it would even further let down the efforts to hold it to 6 million barrels a day. The goal of energy independence is, at least in principle, an achievable goal if we were willing to do all the things we have to do. If we don't do these things, we won't even hold the line at 6 million.

Chairman KENNEDY. Well, there are other things that can be done. Hopefully there will be a more forthcoming attitude by the administration in the area of conservation legislation, for example. We have had strong testimony from Mr. Zarb, generally in favor of the concept; and from FEA generally in favor of the concept. But OMB has effectively cut back in terms of their recommendations on ERDA conservation and other programs.

But when you are talking about it—and I want the record to be clear—it seems to me if you are talking about doing all the things that are necessary, you are talking about extraordinary economic dislocation in terms of capital resources, not energy independence by 1985. I don't think there is any lack of willingness or desire by members either of this subcommittee or the Congress to work with the administration on realistic energy objectives, to try and insure adequacy of supply, alternative sources of energy and conservation, and do the things that need to be done.

But I do not think that energy independence will be a realistic goal by 1985, and it just seems to me we ought to level with the American people on it.

Mr. RICHARDSON. I think we are leveling as to the facts. The characterization of the goal is really the only thing we are arguing about.

I think Frank Zarb wanted to comment on that.

Mr. ZARB. Mr. Chairman, I would like to comment for a moment on that particular issue.

Chairman KENNEDY. Keep all answers quick, I will have one more, and I know you have to leave. I want to be fair to my colleagues. I have not even started, I know it. [Laughter.]

We know what is coming, yes. [Laughter.]

Mr. ZARB. The objective articulated by the President was the 6-million-barrel-a-day import level by 1985. This makes us embargo-proof if you inclule the strategic reserve system is being completed. The President has outlined the methods of getting there, using four primary tools, including conservation. That is a realistic objective if we are serious about the business at hand.

Now, we don't seem to be serious, Mr. Chairman. I am not sure that everybody else agrees with 6 millions barrels a day by 1985, although financing of the measures required is surely achievable in the financial

markets. We have all the other capabilities of doing it, and with the strategic reserve we would be embargo proof.

On the question of conservation, Mr. Chairman, I won't miss this opportunity to point out to you—although with your personal help and support we have moved it out of the Senate—that the President's bill for standards on new construction in this country is still not out of the Congress, and it appears to me, based on reports I have, that it is not going to come out of the Congress.

I would also point out that the House has just cut the conservation budget for FEA rather substantially. Just for the record.

Chairman KENNEDY. Well, just for the record, I could respond with some other facts about the administration's attitude toward conservation. We can get back into that, but I don't want to take the time because there are other responses.

But, Mr. Zarb, 6 million barrels a day is not energy independence.

Mr. ZARB. If you want to change the term and call it an embargo-proof economy, that's all right with me, Senator, as long as everybody agrees with that objective and the means of getting there.

Chairman KENNEDY. You basically agree, then, that energy independence by 1985 is not an achievable part of the administration's program.

Mr. ZARB. If you are saying zero imports by 1985, that has never been our objectives, at least as long as I have been in office.

Chairman KENNEDY. Well, it was not 6 million barrels, either; you have increased it by 300 percent since it was first announced. It started off with 2 million barrels, sometime in 1983; it is now 6 million barrels in 1985.

Mr. ZARB. Well, the original project independence blueprint called for a level of 5 million barrels per day. We have not had exactly the swiftest public policymaking in the last year and-a-half; so, we had to slide a little bit.

But, it does seem to me that 6 million barrels a day, with the strategic reserve system, will make this Nation relatively more independent than it is today.

Chairman KENNEDY. More independent, all right. [Laughter.]

Referring again to your prepared statement, you say—

> Thus the adequacy of oil supplies depends largely upon our continuing normal commercial relations with OPEC.

Do you really consider the cartel power of OPEC as normal and does this mean that we simply acquiesce to OPEC now and in the future. Aren't we prepared to bring whatever pressures we have available from governmental and other sources to bear on this issue?

Mr. RICHARDSON. I think, Mr. Chairman, I could certainly agree to "bringing to bear whatever pressures we have." But I think we must recognize that the means for exerting pressures in this context are not likely to be all that effective in the foreseeable future. What I mean here by "normal commercial relationships" is, in effect, that we recognize, as I indicated in my concluding remarks, that we are not effectively in a position to bring about any major reduction in oil prices at this time.

We do not believe—and I think this is perhaps an important point and comment on your own opening remarks—that the U.S. oil com-

panies, or any of the major oil companies, are in an effective bargaining position in dealing with the OPEC countries. The arrangements between the oil companies and OPEC countries do not provide for bargaining in terms of oil prices. Therefore, I think both with respect to our own situation and that of Europe, Japan, and the nonoil LDC's, we have to recognize that the cartel is a cartel and operating effectively as such.

Chairman KENNEDY. Well, that does not really include the normal commercial relations with OPEC. It seems that is sort of a business as usual approach that we would have with regard to our European allies in terms of commercial relations. I think the characterization of administration policy being normal commercial relations with OPEC, particularly in the area of supply, is probably a——

Mr. RICHARDSON. Well, I think what is meant here, Mr. Chairman, is a distinction between the, what you might call, normal day-to-day relationship of doing business with the OPEC countries versus what at one time seemed headed toward a policy of confrontation. It is really only that contrast that I mean to suggest here.

Chairman KENNEDY. Senator Percy.

Senator PERCY. I would like to direct my first question to both of our distinguished witnesses this morning. In the light of everything you know about our energy problem, is this country doing enough in the area of conservation?

Mr. RICHARDSON. Well, let me make some brief remarks first, Senator Percy, and then I will ask Frank to comment further.

We are not doing enough now. There is, for example, the insulation tax credits legislation Mr. Zarb referred to a moment ago. We are continuing our effort to achieve greater energy conservation in industry, and industry targets are being established by FEA in cooperation with the Department of Commerce. It is, however, not easy to think of effective measures without additional legislation.

Senator PERCY. Your answer to the question, then, is that we are not doing enough. You say there are other things that we could do, with legislation and regulation?

Mr. ZARB. As I said earlier, and I didn't mean it glibly, our reaction to this problem, which is going to cost the American people $35 billion, as compared to $27 billion last year, in terms of forceful governmental action can only be called a joke. There has been lots of rhetoric but very little in terms of the hard substance. I would include conservation, I would include coal, I would include nuclear, and I would include oil and gas, which are the only four tools we have available to us.

Senator PERCY. What proportion of our petroleum consumption is automobile gasoline?

Mr. ZARB. About 50 percent of the crude barrel goes to transportation, and about 40 percent of that goes to the automobile.

Senator PERCY. Mr. Secretary, we are having a boom year in the automobile industry. Is the pattern of purchases good for the energy problem that the country faces? Is there a boom in small cars or is it medium size and larger cars that the American public is now buying?

Mr. RICHARDSON. There has been a move back toward larger cars, and the subcompacts have done the least well in the current automobile market. There is of course countervailing progress being made

toward greater energy efficiency on the part of internal combustion engines. This should result in significant energy increases and there has been some progress in that direction already.

Senator PERCY. I have introduced legislation which puts a financial disincentive on the purchase of gas-guzzling dinosaurs. It also provides a bonus of $350 for anyone who wants to buy a car that averages 25 miles a gallon or more. It's all voluntary, and if people want to pay a higher price they can buy a gas guzzler. It is not in the national interest to load our highways with large automobiles.

Congress is doing nothing about conservation. The American public just doesn't think there is a crisis on, and there is no way to convince them.

Would the administration consider some tax incentive or disincentive to encourage energy conservation?

Mr. RICHARDSON. Well, I think we should certainly reexamine it. I have not personally, Senator Percy, had occasion since getting back to look very far into that question, particularly in light of the rather stringent provisions contained in the law requiring reduction of automobile energy consumption. Meanwhile there are, of course, very considerable efforts being carried out by the automobile industry to lighten automobiles and improve gasoline efficiency.

Senator PERCY. Do you think this slow-moving trend is commensurate with the critical nature of the problem the Nation faces? I can assure you that the American public doesn't think conservation is a serious problem. I am trying to find out whether the administration really feels it is serious. The whole purpose of this public hearing is to see whether there is a sense of urgency about this problem. I think we are fiddling while Rome burns. There is no sense of urgency coming out of the administration now, and, I think it has to come from some place.

I proposed a 30-cent-per-gallon gasoline tax, and was laughed at, even by Frank Zarb. I finally reduced the tax to 20 cents per gallon, and then to 10. I couldn't get anyone to sponsor such legislation.

Mr. ZARB. Senator, one of the reasons I laughed at it was that I had just watched the exercise over on the House side, where 33 cents went to 2 cents.

Senator PERCY. I was trying to emphasize that I felt we were just giving away a precious commodity. We are still in effect granting an incentive to drive cars and a disincentive to use mass transit because mass transit cannot be priced low enough to compete with subsidized gasoline in this country. We have to find a way around this.

Let me ask about the one thing we did do: The 55-mile-per-hour speed limit. I sponsored that piece of legislation, and with the help of Jennings Randolph it became law. Is the Nation observing that law? Can the Federal Government do anything about enforcing it? Would it help if we deprived every State of their Federal highway fund money unless they enforced that law?

The citizens' band radio alone is a boom industry because it allows trucks to avoid that law. I went out with a State trooper in Virginia two weekends ago and listened to the citizens' band broadcasts. There is no way a State trooper can catch a truck today. It looks like a collusion, the whole American public against the police department. [Laughter.]

Chairman KENNEDY. At the risk of interrupting two Republicans here, maybe Senator Javits—you are running into their time problem.

Senator JAVITS. Mr. Chairman, I shall take just two questions in 2 minutes.

Divestiture has not been mentioned. Now, is that going to help us or hurt us right now in respect to this crisis we are in? I thoroughly agree with Senator Percy and Senator Kennedy, but I would like to add one thing, and that is the complacency of the American people.

Senator Percy spoke of the administration. I think the administration has proposed a great deal more than the American people seem to be willing to tolerate, and this is verging on the criminal in itself, considering the fact that we know how dangerously positioned the country is.

So, how about divestiture? Right now it is being pushed very hard here, and there is a lot of sympathy for it. What will it do for this crisis?

Mr. RICHARDSON. A short answer I could start with, Senator Javits, is that we have seen no indication that divestiture has anything whatever to do with the crisis we are facing. Mr. Zarb did touch on it in the summary of his testimony—and in great length in his actual testimony. I am sure he can answer further.

Mr. ZARB. Senator, we would favor any change in regulation that would improve energy supply and pricing. We have analyzed the current bill in every possible way, and we find it to be no improvement. Further, there is the distinct possibility of it working counterproductively, that is, to insure less security and higher prices for the American people.

While it is popular today to talk about breaking up anything big, particularly big oil, I simply cannot support this legislation, based on the fact that there is no conclusive evidence that it is going to help our situation.

With respect to the adminisration proposing programs, somehow in your description you left out the U.S. Congress, Senator. It just seems to me that the time has come for some very, very tough and controversial legislation—maybe not in 1976, maybe in 1977, after the elections. But we have to get down to some of these issues and deal not only with conservation, but the other areas that are vitally important.

Senator JAVITS. I thoroughly agree about the Congress, but, of course, the Congress is going to the polls this fall, and if the people are complacent about it, you are not going to get any action out of the Congress and getting more people into the Congress who feel more strongly about it than those who are here now, if anything, less so. So, it is the people that are the final arbitors here, though I thoroughly agree that the Congress has no been acting.

The other question I had was about this "Energy Independence Authority". That sounds like a lot of money, $10 billion a year. Americans didn't hesitate to spend $100 billion a year for war when we were a lot poorer, in the World War II years. Of course, this is where money talks because it will call for development of our own energy sources, which is the best answer of all, and really the only way to break the OPEC price, which is what is really wrong in this world.

Now, the question I would like to ask is this, compared to $10 billion a year, what is the uneconomic cost of imported oil for the United

States, in other words, over and above what it ought to be, discounting world inflation, better conditions for the OPEC countries, and everything else you can think of; what is the hold-up aspect of the 500-percent increase, and how much does it translate into in dollars per year?

Mr. ZARB. I do not have the specific mathematics for you, but I can supply it for the record. But in macro terms, Senator, there is no question that this year we are going to spend $35 billion, as opposed to last year's $27 billion of American money for imported oil, and that is without an OPEC price increase. And as sure as I am sitting here, OPEC is not going to pass another opportunity to increase prices when they meet next October if world recovery is coming back strong. So, next year it will be even worse.

It is economically in our best interest—it is not a question of spending money; it is a question of investing money to insure that the necessary energy projects go forward, starting this year and next so that we can have the benefits in the 1980's and 1990's.

Senator JAVITS. One question, how much of the $35 billion is uneconomic, that is, is not deserved by inflation and other economic factors, macro, order of magnitude?

Mr. ZARB. $15 billion of the $35 billion.

Senator JAVITS. So, it is five more than what we are called on to invest if we really want to break the price and give ourselves, our national standing and security a real backing; is that correct?

Mr. ZARB. Yes, sir.

Senator JAVITS. Thank you very much.

Chairman KENNEDY. Senator Taft.

Senator TAFT. Thank you, Mr. Chairman, just a couple of questions. One, when the administration finally went along on the roll-back bill, Mr. Secretary and Mr. Zarb, it apparently walked away from consideration of the windfall profits tax as an approach to this problem. Why not go to windfall profits tax way, even if the tax does not have any particular effect with the current roll-back approach, simply because it would help convince the public of the problem?

I think if you had a windfall profits tax, even if it was not very effective from the point of view of bringing in revenue, it would at least assure the public, I think, that there was a problem there, and it is not all a giant rip-off, which is what the general public's attitude, I think, in many circles is today.

Mr. ZARB. Well, Senator, if what you are saying is that we need something like that for optics, I don't know how to reply. But, if you look at capital investment in the United States in 1976–77 by majors and nonmajors, you will see that it has gone up considerably.

Part of this is due to the fact that the December-signed bill did not turn out to be so bad from the point of view of inducing investment; the other part is due to the fact that the United States seems to be the safest place to invest in oil and gas development. We have not yet gotten to discussing seriously nationalization, whereas in other parts of the world that is a real threat.

Senator TAFT. But you would do a lot better with decontrol if you had it, wouldn't you?

Mr. ZARB. Senator, for a year we talked about decontrol and an automatic windfall tax program that was very severe, starting at 90 per-

cent, and then a rebate of all those dollars to the American economy, but this was not accepted.

Senator TAFT. You backed away from it because Congress would not accept it. Why not enact it now and at least continue the movement toward decontrol. I think possibly Senator Percy's approach of increased taxes would really do something about bringing the price mechanism into effect, insofar as public opinion is concerned.

Mr. ZARB. Well, if you are suggesting that we resurrect the pricing debate and go back to decontrol and a windwall profit tax, I would be happy to explore that with you.

Senator TAFT. Thank you, Mr. Chairman.

Chairman KENNEDY. You are on your way to the White House. I hope that both of you—while talking with the President about energy—will put in a good word for S. 3424, the conservation bill, which Senator Percy and now 26 Members of the Senate cosponsor, from all different parts of the country. We had good response from Interior, Commerce, and the Banking Committee. We are working with FEA, the Treasury Department, and other agencies in terms of technical problems. I think we can offer it as an amendment to the FEA extension legislation, and I would hope that you would give it some serious consideration in your talk with the President.

Mr. RICHARDSON. Well, we do have some problems with specific elements of the bill, Mr. Chairman. On the other hand, we would like to work with you toward the enactment of appropriate legislation. And, I might add, in that connection we would welcome your own support and assistance in getting action on the home insulation legislation.

Chairman KENNEDY. Well, we have supported the areas of weatherization and energy performance standards for new housing. We think we can pass these provisions in the Senate as part of S. 3424, along with the other conservation features.

I think after the antitrust bill we probably will have the tax bill for a week or so, and then S. 3424 will be up, unless we get an agreement for a two-track system. So, it is going to move rapidly, within the next week or so, and we will be staying in touch with you. We would like your help.

Senator PERCY. Mr. Chairman, I ask unanimous consent that because of the brevity of this morning's hearings, the balance of questions from members of the committee be submitted in writing.

I would like to say that in my earlier remarks, I did not make clear my feelings on the administration's role in conservation. I think the administration has done more than Congress in the way of conservation; we just have not picked up their initiative. I hope that your voices can be continually raised in a sense of urgency about this problem, and I hope it can be made part of the fall campaign.

Also, I add my voice to your own on divestiture. I cannot find any real advantage to the consumer from a breakup of the large oil companies. It sounds great, but I want to know the end result before we dare rush in to disrupt our economy's oil delivery and production systems. Your evidence confirms the independent studies that I have done.

Senator JAVITS. I will just add one word about divestiture, and I won't even ask a question. I think we ought to come up with an alternative for us, how can we bargain better with the OPEC countries than the so-called international oil industry because that is the weakness where the divestiture attack makes a lot of sense, if you could bargain better, broken up into independents.

But the administration has presented no alternative as to how we may have some kind of arm's-length bargaining; I am inclined to agree that there is none now.

Mr. RICHARDSON. I don't think it is at all clear, Senator Javits. Let me just say very briefly that the big oil companies are in an effective position to bargain on price, and I don't see how small ones would be in as good a position.

In any event, certainly this is a matter as to which we should give continuing thought; and it is a matter which all the consuming countries need to work on, as indeed they are by and large. Over time, the problem is one of developing alternative energy sources and greater energy efficiency, and thus greater relative independence. Efforts such as these, on the face of it, are the only effective means for putting pressure on oil prices.

Senator JAVITS. It is not quite as unequivocal as you make it, it is a very difficult thing. But if the U.S. administration came up with an alternative, even the alternative of a Government bargainer, the U.S. Government to do the bargaining, then I think the case against divestiture would be stronger.

Mr. RICHARDSON. We will certainly take another look at that.

Chairman KENNEDY. Thank you very much, we appreciate it. Sorry to make you late.

We will be in order, please. Our next witness is Charles Robinson, the Deputy Secretary of State.

Mr. Robinson, we welcome you here and look forward to your testimony.

We have a vote on, Senator Percy will be back, and we will excuse ourselves. We will start in with your testimony.

We will have order now, please.

Please proceed, Mr. Robinson.

STATEMENT OF HON. CHARLES W. ROBINSON, DEPUTY SECRETARY OF STATE

Mr. ROBINSON. Mr. Chairman, I have a relatively short statement which I would like to get in the record; with your permission I will present it.

I welcome this opportunity to meet with you today to discuss our international energy policy and the role of international oil companies in the producer/consumer relationship. I share your appreciation of the fact that the world oil situation underwent a fundamental change in 1973–74. I plan therefore to discuss the situation as it now exists and not the structures and policies as they were until a few years ago.

We must recognize that the producers have exclusive control over the level of international oil prices through their decisive control over supplies available to the market. The events of 1973–74 demonstrated

that our growing dependence on imported oil had made us unacceptably vulnerable, politically as well as economically, to supply cutoffs and arbitrary increases in price. We are directly vulnerable because of our own large dependence on imported oil and indirectly vulnerable through the oil import dependence of the other major industrialized countries with whom we have a tightly woven political, economic, and security relationship.

A strong U.S. national energy program is critical to the collective efforts of consuming countries to meet the energy challenge. We are the world's largest consumer and importer of oil. We have the greatest potential for effective action to restrain our energy demand, develop alternative resources and reduce our import dependency. Yet, our demand for imported energy is once again rising with economic recovery. Major new energy efforts are needed; they will require large commitments of manpower, capital, technology, and will.

But unless we are willing to implement a strong and comprehensive U.S. program, we cannot expect other consuming nations, for whom reduced import dependency is even more difficult and expensive, to do so. For the medium term, effective joint action by consuming countries will be crucial in constraining upward price pressure. For the longer term, the technological efforts made now will be essential to meeting our own and other nations' energy needs when global supplies of oil begin to decline.

Multilateral energy cooperation among consuming nations is a necessary complement to strengthened domestic energy programs. The record of such cooperation is impressive. So far:

We have successfully established the International Energy Agency—the IEA—to facilitate close cooperation in energy by 19 countries with a common problem of import dependence;

We now have in operational readiness an integrated emergency program to mitigate the impact of any future embargo on the economies of the IEA member countries. Under this program the international oil companies would be responsible for moving available oil within the formal guidelines established by the member governments;

We have established an oil market data system within the IEA to increase our ability to monitor the market through mandatory submission of data by international oil companies and member governments;

We have agreed upon target levels of national oil and strategic reserves to be maintained by companies and governments of IEA member countries;

We have recently adopted in the IEA a comprehensive program of long term energy cooperation to reduce our dependence on imports through joint efforts in conservation, accelerated production of alternative energy sources and research and development; and, finally; and

We have agreed in the OECD to establish a financial support fund—subject to congressional approval—as a safety net for countries which experience acute balance of payment problems resulting from massive shifts of foreign-owned funds or other extreme economic dislocations.

These achievements, though impressive, are not in themselves sufficient. Our common goal of reduced dependency requires additional efforts. We intend to push for early institution of concrete measures

and programs to implement the commitments undertaken by IEA members in the program for long term energy cooperation. Other members share our determination for rapid progress in this area.

While the fundamental principle of our energy policy is to reduce our vulnerability to supply disruption and arbitrary price increases, we are also committed to seeking constructive, mutually beneficial cooperation between producers and consumers. We live in an interdependent world in which problems and responsibilities of one group cannot be divorced from those of another.

Chairman KENNEDY. Mr. Robinson, Senator Percy will be back in a minute, then we will proceed. We will vote and be right back; we will just recess for a moment.

[A short recess was taken.]

Senator PERCY. Mr. Robinson, you were in the middle of your testimony.

Mr. ROBINSON. Right in the middle of a spellbinding presentation.

Senator PERCY. I'm prepared to be spellbound, go right ahead.

Mr. ROBINSON. I have discussed, Senator, the basic problem of interdependence, and the importance of the consuming countries to work together. I have outlined some of the steps that we have taken to deal with the problem of reducing our dependence on imported oil. Now I am just beginning to talk about the importance of producer-consumer coöperation, and efforts to build a new relationship.

While the fundamental principle of our energy policy is to reduce our vulnerability to supply disruptions and arbitrary price increases, we are also committed to seeking constructive, mutually beneficial cooperation between producers and consumers. We live in an interdependent world in which problems and responsibilities of one group cannot be divorced from those of another. Producers and consumers share a common interest in global stability and growth and a common concern for the special problems of the nonoil developing countries.

In the interest of time, I am going to summarize my presentation and submit the full text for the record.

The appreciation of these common interests and interdependency have led us into a new, cooperative dialog between oil producers and oil consumers in the Energy Commission of the Conference on International Economic Cooperation. In the Energy Commission:

We have analyzed energy supply, demand, and price issues in a search for greater common agreement on the facts of the situation and their implications;

We plan to explore the possibilities for increasing producer-consumer cooperation through new initiatives and institutions; and

We see the dialog as a part of the process of integrating the newly powerful and wealthy producers into the world financial and training systems.

We are encouraged by the conduct of the dialog so far. We hope the same businesslike and pragmatic atmospheric of the first session will also characterize the work during the last half of the year when we move from the analytical into the decision-taking phase. We believe the dialog can be instrumental in creating a more cooperative international environment for resolving energy and other critical economic issues.

We hope the dialog will help increase the perception among the producers that their own interests are served by a restraint in the exercise of their power over oil prices and supply. However, only strong action to reduce our dependence on imported oil can achieve that fundamental objective.

Mr. Chairman, let me now turn to the relationship of the international oil companies to our energy policy. Some in our country argue that the companies in effect proration oil production of the OPEC members to the detriment of the consumers' interest in lower prices. This argument is based on a mistaken analysis of OPEC power and operation.

The producers' power arises from our import dependence and the OPEC members' willingness to limit total production to the level demanded at the basic price they determine. The OPEC members first decide on the price of a single crude—this currently is Saudi Arabian 34-degree light—and individual members price their crudes in relation to it, taking account of quality and transportation differentials. As the relative values shift among the various crudes, the companies shift their purchases among the producers. With few exceptions, producers with unused production have been disinclined to sell oil at less than market price to increase their market shares. At present, differentials for heavy crude have not been adjusted sufficiently to reflect the drop in demand for heavy fuel oil induced by the recession and fuel substitution.

As a result companies have responded by cutting back on purchases of heavy crudes while increasing purchased of light crudes.

In several countries the companies are being forced out of concessionary arrangements and offered ongoing services and purchase contracts. Generally, these purchase agreements will be for ower amounts than past peak purchases and they will include some form of price escape provision. Thus, the companies seek to retain a flexibility to purchase among various producers in response to price changes.

A structural change of our oil industry through divestiture or displacement of the companies in negotiations for purchase contracts for OPEC oil would not go to the heart of our problem of dependence, but only complicate it. OPEC's power does not arise from the integrated structure of the industry, nor from company attempts to procure adequate supplies at competitive prices. OPEC was only able to quadruple oil prices when dependence and demand, especially U.S. dependence and demand, gave the producers the power to do so.

At the same time, the vertically integrated international companies still perform essential functions for the United States by retaining substantial control over the delivery of oil imports essential to us. We will need this capability to serve the IEA emergency program should there be another embargo. The companies also represent a crucial source of capital and technology for developing the new energy resources which must be developed for the future.

In conclusion, Mr. Chairman, we have the resources and the ability to take actions domestically and in cooperation with other industrial countries to shift the balance of the world oil market over time and thereby create the condition necessary to reduce the power of OPEC members to control unilaterally oil production and prices. Such ac-

tion will be neither easy nor inexpensive. But as a Nation, we have no choice but to move as rapidly as practicable to regain control of our energy future.

Thank you.

Senator PERCY. Thank you very much indeed, Mr. Robinson.

Your prepared statement will be printed in the hearing record.

[The prepared statement of Mr. Robinson follows:]

PREPARED STATEMENT OF HON. CHARLES W. ROBINSON

Mr. Chairman: I welcome this opportunity to meet with you today to discuss our international energy policy and the role of international oil companies in the producer/consumer relationship. I agree with your appreciation of the fact that the world oil situation underwent a fundamental change in 1973–74. I plan therefore to discuss the situation as it now exists and not the structures and policies as they were until a few years ago.

We must recognize that the producers have exclusive control over the level of international oil prices through their decisive control over supplies available to the market. The events of 1973–74 demonstrated that our growing dependence on imported oil had made us unacceptably vulnerable, politically as well as economically, to supply cutoffs and arbitrary increases in price. We are directly vulnerable because of our own large dependence on imported oil and indirectly vulnerable through the oil import dependence of the other major industrialized countries with whom we have a tightly woven political, economic and security relationship.

CONSUMER COOPERATION

A strong U.S. national energy program is critical to the collective efforts of consuming countries to meet the energy challenge. We are the world's largest consumer and importer of oil. We have the greatest potential for effective action to restrain our energy demand, develop alternative resources and reduce our import dependency. Yet our demand for imported energy is once again rising with economic recovery. Major new energy efforts are needed; they will require large commitments of manpower, capital, technology, and will. But unless we are willing to implement a strong and comprehensive U.S. program, we cannot expect other consuming nations, for whom reduced import dependency is even more difficult and expensive, to do so. For the medium term, effective joint action by consuming countries will be crucial in constraining upward price pressure. For the longer term, the technological efforts made now will be essential to meeting our own and other nations' energy needs when global supplies of oil begin to decline.

Multilateral energy cooperation among consuming nations is a necessary complement to strengthened domestic energy programs. The record of such cooperation is impressive. So far—

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We have agreed in the OECD to establish a financial support fund (subject to Congressional approval) as a safety net for countries which experience acute balance of payments problems resulting from massive shifts of foreign-owned funds or other extreme economic dislocations.

These achievements, though impressive, are not in themselves sufficient. Our common goal of reduced dependency requires additional efforts. We intend to push for early institution of concrete measures and programs to implement the commitments undertaken by IEA members in the program for long-term energy cooperation. Other members share our determinaiton for rapid progress in this area.

PRODUCER/CONSUMER DIALOG

While the fundamental principle of our energy policy is to reduce our vulnerability to supply disruptions and arbitrary price increases, we are also committed to seeking constructive, mutually beneficial cooperation between producers and consumers. We live in an interdependent world in which problems and responsibilities of one group cannot be divorced from those of another. Consuming nations need adequate flows of oil at equitable prices. Producers need long term oil markets, dependable outlets for their investments, and access to capital goods and technology. Furthermore, producers and consumers share a common interest in global stability and growth and a common concern for the special problems of the non-oil developing countries.

The appreciation of these common interests and interdependency have led us into a new, cooperative dialogue between oil producers and oil consumers in the Energy Commission of the Conference on International Economic Cooperation. In the Energy Commission,

We have analyzed energy supply, demand and price issues in a search for greater common agreement on the facts of the situation and their implications.

We plan to explore the possibilities for increasing producer/consumer cooperation through new initiatives and institutions, for example, through the International Energy Institute proposed by Secretary Kissinger at the Special Session of the United Nations General Assembly last fall.

We see the dialogue as a part of the process of integrating the newly powerful and wealthy producers into the world financial and trading systems in which they have become important actors.

We are encouraged by the conduct of the dialogue so far. We hope the same businesslike and pragmatic atmosphere of the first sessions will also characterize the work during the last half of the year when we move from the analytical into the decision-taking phase. We believe the dialogue can be instrumental in creating a more cooperative international environment for resolving energy and other critical economic issues.

We hope the dialogue will help increase the perception among the producers that their own interests are served by a restraint in the exercise of their power over oil prices and supply. But we cannot expect the dialogue to induce them to cede this power voluntarily to others. Nor will it reduce our vulnerability—only strong action to reduce our dependence on imported oil can achieve that fundamental objective.

THE ROLE OF THE INTERNATIONAL OIL COMPANIES

Mr. Chairman, let me now turn to the relationship of the international oil companies to our energy policy. Some in our country argue that the companies in effect proration oil production of the OPEC members to the detriment of the consumers interest in lower prices. This argument is based on a mistaken analysis of OPEC power and operation.

The producers' power arises from our import dependence and the OPEC members' willingness to limit total production to the level demanded at the basic price they determine. The OPEC members first decide on the price of a single crude (Saudi Arabia 34° light) and individual members price their crudes in relation to it, taking account of quality and transportation differentials. As the relative values shift among the various crudes, the companies shift their purchases among the producers. This prorationing of production is done on the basis of small changes in differentials which are significant to the companies but do not influence the basic price level. With few exceptions, producers with unused production have been disinclined to sell oil at less than market price to increase their market shares. On the contrary, large producers with a limited need for revenues have adhered rigidly to the established price while changes in quality and transportation differentials made other crudes more competitive. Thus, when demand was falling in 1975 such producers were willing to accept a disproportionate share of the OPEC reduction in production to preserve the basic price.

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Companies shifted more of their purchases to other producers on the basis of relative price considerations.

Similarly, at present, differentials for heavy crudes have not been adjusted sufficiently to reflect the drop in demand for heavy fuel oil induced by the recession and fuel substitution. As a result companies have responded by cutting back on purchases of heavy crudes while increasing purchases of light crudes.

In several countries the companies are being forced out of concessionary arrangements and offered on-going service and purchase contracts. Generally, these purchase agreements will be for lower amounts than past peak purchases and they will include some form of price escape provision. Thus the companies seek to retain a flexibility to purchase among various producers in response to price changes.

A structural change of our oil industry through divestiture or displacement of the companies in negotiations for purchase contracts for OPEC oil would not go to the heart of our problem of dependence, but only complicate it. OPEC's power does not arise from the integrated structure of the industry nor from company attempts to procure adequate supplies at competitive prices. OPEC was only able to quadruple oil prices when dependence and demand, especially US dependence and demand, gave the producers the power to do so.

At the same time, the vertically integrated international companies still perform essential functions for the US by retaining substantial control over the delivery of oil imports essential to us. We will need this capability to serve the IEA emergency program should there be another embargo. The companies also represent a crucial source of capital and technology for developing the new energy resources which must be developed for the future.

CONCLUSION

In conclusion, Mr. Chairman, we have the resources and the abiilty to take actions domestically and in cooperation with other industrial countries to shift the balance on the world oil market over time and thereby create the condition necessary to reduce the power of OPEC members to control unilaterally oil production and prices. Such action will be neither easy nor inexpensive. But as a nation, we have no choice but to move as rapidly as practicable to regain control of an energy future. Thank you.

Senator PERCY. I would like to ask you, first, about conservation. You state in your prepared statement that unless we are willing to implement a strong and comprehensive U.S. program, we cannot expect other consuming nations, for whom reduced import dependency is even more difficult and expensive, to do so.

How important is it for the United States, as a leading Nation in the Free World to set a policy on energy conservation?

Mr. ROBINSON. It is an essential element in preserving our credibility in the discussions that we are maintaining in Paris, and bilaterally throughout the world with other consuming countries. We have taken the lead, played the appropriate leadership role in bringing together consumers into a coordinated program. We have appealed to them to move into conservation efforts in a coordinated way. Most of these countries have moved, and have moved much more effectively than we have.

Certainly, our failure to develop an integrated, coordinated program has left us in a position of weakened leadership; our credibility is threatened in this area. I feel it is an essential element in reestablishing a leadership position that the United States must play to solving these critical problems.

Senator PERCY. What is your own feeling about vertical divestiture? What would you do if you were a U.S. Senator and there was a vote on the floor that said companies must divest themselves and decide which of three areas of the industry they are going to go into? Would

you be concerned about the efficiency and effectiveness of our ability to meet our energy needs in this country?

Mr. ROBINSON. Well, it disturbs me greatly, based on conversations I have had with oil ministers of all major oil-producing countries in the world in OPEC; my discussions with the oil company executives.

It is very clear to me that one of the protections we have against even more drastic changes in price has been the strength of our major oil companies. Their interests are very parallel to our national interests in seeking to minimize price; preserve the stability of supply; diversify sources.

An effort to weaken our integrated oil companies would serve to move the balance of power to the oil companies of other countries with their national interests to be reckoned with, and toward the development of integrated oil operations by producer countries. In all these moves we would be encouraging the development of a greater strength outside of our control, and therefore increasing our susceptibility to arbitrary action by the oil producers.

Senator PERCY. I would like to ask a technical question on the way OPEC operates. In your prepared statement you state OPEC decides on the price of Saudi-Arabian crude, and individual members price their crude in relationship to it. Differences in prices are therefore attributable to quality and transportation differentials.

What if a particular OPEC country wants to increase its income? Can it shave its price and weaken OPEC's bargaining relationship? Can a country divert the buyer to purchasing their particular crude? Is there any such price-guiding going on in the OPEC countries now? Do we really have an over-supply situation?

Mr. ROBINSON. Yes, that is one of the most critical problems in the OPEC nations today. There has been a general understanding as to differentials between light and heavy crude; there have been general understandings as to the price differential for geographical location, transportation differential.

However, these are dynamic factors that shift, and with the change in demand for overall crude, the differential that would be required to maintain the sale of heavy crude versus light crude increased. Now, this creates a problem because those countries producing light crude are satisfied with the price differential and at the same time they increase their total sales at the expense of other OPEC members.

This is a fundamental problem that OPEC has been addressing, and it was really the breakdown of the discussions of the appropriate differentials—quality and transportation differential—which resulted in the termination of the meeting at Bali at the end of May without a general price increase. It is a very serious problem for them and has been used by Iraq, for example, which gained a significant advantage by maintaining an insufficient price differential and this has increased its sales at the expense of Iran, a country which has suffered as a result of the inadequate differentials between heavy and light crude.

Senator PERCY. Could you explain to us who plays what role in the setting of prices?

The oil companies take a terrific beating today, and they are almost as unpopular as the Members of Congress. Yet, while the oil

industry was doing all the bargaining and determining our prices, we had the cheapest petroleum products in the world.

I was somewhat stunned to have the chairman of Mobil Oil testify that they had no real input at all in the last OPEC meeting. Since responsibility for oil pricing has been taken out of the hands of the oil companies, prices have increased manyfold.

Is there any way that we can get back into the bargaining process, to help put downward pressure on price?

We ourselves can ameliorate the country's bargaining position through energy conservation. But is there any way that this Nation's representatives can have an input into the bargaining process? What is the input of the State Department today? Is industry working with you on this, or are they just sitting there as observers? Who is doing he bargaining for us?

Mr. ROBINSON. The bargaining today is between the individual OPEC countries. It is clear that the inflexibility of demand is such that the OPEC nations could increase their total revenue by raising the price. So long as you have that kind of situation, OPEC is in a position to determine what that price should be.

Now, we are clearly in favor of reduced prices—although I consider that an unrealistic goal; but we certainly are strongly opposed to any increase in price, which in the long run means a decrease in real terms.

We worked with individual oil producers on a bilateral basis. I have visited with the oil ministers of most of the major oil producers during the last 6 months to convince them that they should not raise the price in May.

We have in the Conference on International Cooperation in Paris an Energy Commission, and our purpose in that Commission is to clearly establish the consequences of increased prices, and in an effort to get the OPEC nations to accept some responsibility for preserving the stability of the world economy by avoiding abrupt increases in price.

We are also working with the OPEC countries with regard to the burden that increased price imposes on developing nations, and we are trying to get them to share with us the responsibility for responsible action to avoid undue burdens on these developing countries. But, in the final analysis, where you have countries like Saudi Arabia—where there is shut-in capacity—who are perfectly willing and able to reduce production, if necessary, to preserve price, it is very difficult to negotiate in the sense that you have suggested.

Senator PERCY. Is there any incentive now, for oil companies to try to get lower prices from OPEC?

Mr. ROBINSON. The pressure comes from the fact that large integrated companies have various sources, and they can shift from one source to another; and by that they can bring some pressure on the differentials, and other intangible elements.

But the base price is something that is just not subject to negotiation between oil companies and producers in what we think of as the traditional way.

Senator PERCY. Thank you very much.

Representative BROWN of Ohio. Let me pursue the same line of questions that Senator Percy was involved in, if I may.

In your prepared statement you state that individual members price their crude in relation to the Saudi Arabian light, taking account of quality and transportation differentials. As the relative values shift among the various crudes, the companies shift their purchases among the producers.

Do you see any evidence that there has been any change in market share in the oil-producing nations as a result of the shaving of prices to attract purchasers?

Mr. ROBINSON. Yes; we clearly saw that during the last year. The decrease in total demand actually established a wider gap in the economic value of light crude versus heavy crude than the differential that had been established. The countries producing light crude, for example, Iraq and, to a certain extent, Nigeria, benefited at the expense of the countries that produce a larger percentage of heavy crude, such as Iran and Venezuela.

This has brought about a strain in OPEC, and an effort to adjust the differential to protect volume with changing demand and the changing economic value between these two grades.

In the case of geographical differential, transportation differential, Libya and Algeria have had a differential that has been based on the freight market. Now, as the freight market increases—and there is a tendency towards that increase today—there will be a shift to the producers located closer to the market, such as Algeria and Libya, at the expense of the Persian Gulf producers.

So, it is always in a state of flux, as total demand and transportation rates change, and since there is no formula, within OPEC to give the flexibility needed to bring about adjustments that preserve individual countries' participation in the total market. This creates some problems which they have not been able to resolve.

Representative BROWN of Ohio. Do you see anything in the problems that have been created, the shifting of the markets of purchasers, the changing in market shares that would indicate any prospects in the near future, or in the interim future, of the OPEC cartel breaking up?

Mr. ROBINSON. No; I think it is unrealistic to expect it to break up. But I do think the failure to resolve these difficult intra-OPEC problems is probably the primary explanation that there was no increase in the basic price in Bali. The inability to research an agreement threw the meeting into disarray, and they finally terminated the meeting without a decision on a price increase.

Representative BROWN of Ohio. And the whip hand is held by the national leadership of the OPEC countries, and not by the multinational companies who acquire and put into the market crude products?

Mr. ROBINSON. That is basically true. It is possible for a large, integrated oil company with several sources to take advantage of these changing differentials, or the changing economic response to the established differential, to shift from one producer to another, and that tends to bring some pressure on individual countries.

But in terms of the basic price, traditional negotiations between buyer and seller do not exist.

Representative BROWN of Ohio. Is there anything the major multinational oil companies could do within the antitrust laws of this coun-

try, and what you have just suggested, shifting their acquisitions and purchases from one country to another, and without damaging their competitive market position among consumers of their product, to break up the OPEC cartel?

Mr. ROBINSON. Well, I think there is a possibility of denting it, but breaking it up cannot come so long as large producers have the surplus production capacity and the will to cut back and reduce production to equate supply and demand at the determined price; and so long as the world continues its demand for oil and gas, there is little or nothing that the major oil companies can do to change that picture.

Representative BROWN of Ohio. Is the production control within nations absolute? That is, where several of the oil companies may have the pumping franchise in various nations in the OPEC area, do the nations generally control the amount that can be extracted from the ground in their country, with a degree of absolute certainty?

Mr. ROBINSON. Yes; as a generalization you have that control. Now, in each country there are different arrangements. In Iran, for example, you have a consortium, which are the former foreign investors which participate within a formula established by Iran, and parallel to Iran's own production. They are now being urged to sell more oil and export more oil, and are being criticized for failure to do so.

Representative BROWN of Ohio. They are being urged to sell more oil to consumers wherever they have markets, is that correct?

Mr. ROBINSON. That's correct, and are being criticized for their failure to do so with regard to the heavy crude, which is overpriced in relation to the light.

Representative BROWN of Ohio. Is there a club in the background that if they don't encourage sales to their consumers, that they will lose their franchise operations, that their operations will be nationalized, or that one extracter over another might be given a smaller share of that monopoly, government control, of what is to be produced?

Mr. ROBINSON. Yes, that is true. Of course, their interests have already been nationalized, they operate under a consortium agreement.

Representative BROWN of Ohio. Under a licensing arrangement, in effect.

Mr. ROBINSON. An arrangement under which they have the right, and Iran claims, an obligation to ship a certain amount of oil in a given proportion between light and heavy. That of course is where the problem was generated this past year, where the differential was about 12 cents a barrel between light and heavy, and the companies estimated that should be 30, or 40, or 50 cents.

They are under great pressure and are being asked to renegotiated their 1973 agreement. Their success, the ability to protect their own position will be influenced by the volume that they are willing to sell.

Representative BROWN of Ohio. Well, for instance, if Standard—I am taking them out of the air because I don't know who is where—but if Standard and Shell are both in the consortium, is one of the threats that:

> Standard, if you don't get out there and hustle sales of this particular country, we may give you a smaller share of the consortium sales opportunity; and then if there is a shortage, of course you will be less able to meet the needs of your customers.

Is that the kind of pressure that is put on them?

Mr. ROBINSON. Well, basically all of the oil companies are in much the same position. Playing one against the other is not as productive as it may be under other circumstances. But the failure of all of the oil companies to export as much heavy crude from Iran, as the Iranian Government feels they are committed to, will bring pressure on all of them in terms of the negotiations they have to face ahead.

Representative BROWN of Ohio. Let me shift just a minute to another statement in your prepared statement which I want to take a little bit exception to. You say, "We now have in operational readiness an integrated emergency program to mitigate the impact of any future embargo on the economies of the IEA member countries."

"Operational readiness," it seems to me, must be a euphemism for planning because we do not have any oil reserves in being at this point, do we? In other words, isn't our storage arrangement for the 180-day supply of oil sort of an "on paper" project, and in fact, has not the Congress only funded a certain portion of that; and in further fact, do we have any oil against a possible embargo under that arrangement?

Mr. ROBINSON. Well, individual oil companies do maintain stocks. It is true, we do not have and will not have for several years the full strategic reserve that has been contemplated. However, all of the participants, the 19 participants in IEA have a commitment to build up these stockpiles, and all of them have done so to a certain extent.

Representative BROWN of Ohio. Now, let me just understand, how has that stockpile been built up in the United States? We do not have any Government-owned reserves in oil, do we?

Mr. ROBINSON. No. Well, except for some supplies for our own military requirements.

Representative BROWN of Ohio. But under the IEQ plan—the IEP plan, the stockpile plan—contemplated under the EPCA Act, there was to be a stockpiling of oil under the control of the Federal Government, was there not? We were going to put it in metal tanks, salt domes, or something?

Mr. ROBINSON. That program is still out ahead.

Representative BROWN of Ohio. It is still what?

Mr. ROBINSON. It is out ahead, that program has not yet been put in place. But we have approximately a 100-day supply, which is part of our normal pipeline between the porduction and consumption.

Perhaps Mr. Malin of the FEA could give us a more precise answer as to exactly where we stand on supplies in this country.

Mr. MALIN. If I may answer the question, Mr. Chairman. The present supply in the industry system at any given moment is estimated to be between 800 million and a billion barrels of oil, some of it in the form of crude oil at refineries or at collection depots near producing sites; some of it in pipelines; some of it in barges, tankers, and so on.

Representative BROWN of Ohio. Go ahead with the list, but is that more or less than what was in the pipeline, as it were, after the embargo? I mean, after it was filled up, after the embargo.

Mr. MALIN. Congressman, it is never quite filled. A more precise definition, it is probably always half empty, as well as half filled because this could be classified as operational or working storage. It

should not be classified, or should not be confused with the strategic storage program that is presently being proposed. It is not dead storage. It is the product and crude oil that is in the system itself and is essentially working storage.

Representative BROWN of Ohio. Well, my time is up, but I just want to ask one final question. Is that pipeline capacity—never mind now what is now in it—is that pipeline capacity greater or lesser than at the time of the oil embargo; or is it essentially unchanged?

Mr. MALIN. Except for the incremental capacity that has come onstream since the embargo, it is essentially the same.

Representative BROWN of Ohio. And that is minimal, that additional refinery capacity is minimal, is it not?

Mr. MALIN. Yes sir; I believe it is under 500,000 barrels a day.

Representative BROWN of Ohio. My time is up, Mr. Chairman. I would be glad to ask some questions later on.

Chairman KENNEDY. What do you see, Mr. Robinson, as the role then of the Federal Government in terms of any of the negotiations that are taking place at the present time between the multinational oil companies and any of these OPEC countries, do you see any role for the Government in terms of the interests of the consumers?

Mr. ROBINSON. I think there is very clearly a role for the U.S. Government, and we are performing in that role. I think we must monitor and be kept fully informed of the general principles and basic thrust of the negotiations that are going on between our oil companies and the Governments of the oil producers. We do that because we think it is essential to assure that the negotiations are proceeding in a way that protects our national interest.

Chairman KENNEDY. What do you mean by "monitor and keep informed"? Are there any negotiations which have taken place at the present time between oil companies and OPEC which you are not completely informed about?

Mr. ROBINSON. Well, the word "completely," of course, has to be defined. We are working very closely with the Aramco partners.

Chairman KENNEDY. How do you do that, for example, do you have anybody who sits in those meetings and reports to you; what are the procedures?

Mr. ROBINSON. We do not sit in on the negotiations, but I have met with Sheik Yamani to discuss his objectives; I have met with the executives of all of the participants in Aramco to determine how they view their position and how the negotiations are proceeding, what are the basic elements in those negotiations. We feel free to comment and to guide them where we feel it is appropriate to assure that the negotiations are proceeding in a way to protect our national interest.

Chairman KENNEDY. Well, have there been any negotiations that have taken place in any reasonable period of time, which the administration has felt have been unacceptable, say in the last 2 or 3 years?

Mr. ROBINSON. Unacceptable in terms of our national interest?

Chairman KENNEDY. Yes.

Mr. ROBINSON. Of course, we don't control what position the oil producers take, and obviously we have not been happy with their position.

But in terms of what our oil companies have done, I would say that we are in substantial agreement that they have done the best possible under very difficult circumstances.

Chairman KENNEDY. There have been no negotiations, then, where, if you had a veto, the administration had a veto, you would have exercised that power over any of these negotiations?

Mr. ROBINSON. It is my impression that the answer to that is, no; but I have not personally been involved in all of the negotiations; I believe that to be the case. I have not had the personal involvement to say it with certainty.

Chairman KENNEDY. Would it be valuable to have that authority or power?

Mr. ROBINSON. I think in effect we do exercise that by expressing concerns about certain directions negotiations are taking, or urging that they move in other directions. But, in the final analysis, as long as they are negotiating in good faith and our national interests are protected as well as possible under the almost impossible circumstances they face today, we would go along with their conclusions.

Chairman KENNEDY. Of course, they do start off from a different vantage point, do they not, from what would be the consumer interest? I mean, any time the price goes up for those who have sizable reserves, the value of their reserves goes up. So, how can we expect that they are going to be bargaining very effectively?

Why isn't it really "business as usual" in terms of attitude of the major oil companies toward OPEC? It seems to be almost a cosy relationship, they set the price; you don't expect that they can do very much; they say they can't do very much. As the international price goes up, the value of their reserves goes up. There are no negotiations that have taken place over the last 3 years that you have taken strong exception to. You don't come up to the Congress asking for any kind of veto power; you don't ask Congress to provide you with authority to sit in at those meetings; you don't have the power to work with the oil companies and say, "Why don't we try and work with Indonesia and Nigeria, see if we can't bring some exercise of influence in economic power in terms of downstream capacity?"

Isn't it really "business as usual" in terms of the traditional kinds of arrangements which have existed, and in which the consumer ends up paying more because no one seems to be bargaining very hard and very tough in terms of their negotiations, other than making some rather general comments in terms of our desire to keep price down?

We have had testimony that that emphasis has been rather general and uncoordinated in the past, according to Ambassador Akins.

Mr. ROBINSON. I am not here to defend the oil companies, I will leave that to them. But, let's take as an example the negotiations in progress in Saudi Arabia. There is no question of protecting the value of oil reserves because the oil reserves belong to Saudi Arabia. The negotiations today are related to service agreements, service fees, management contracts, commitments to take oil and right to take oil. The price is established by OPEC, that is not subject to negotiation, so that the oil companies are merely establishing the basis on which they will continue to provide management, and receive a fee in relation to the volume of production—that is a matter of a few cents per barrel. They are not gaining the benefits of an increase in price because the oil belongs to Saudi Arabia.

Chairman KENNEDY. Mr. Robinson, just to interrupt, you have to, in any comment like that, not disassociate the increase in the value of

the reserves domestically, and as that price goes up, not recognize the important relationship of the resources that these oil companies have in terms of coal, uranium, solar energy, or any of the others. Obviously, if the world price of oil goes up, the value of the other alternative sources of energy goes up also, even with the present price control program. So, you cannot suggest that if the world price goes up it does not benefit these individual companies.

Mr. ROBINSON. I recognize that in terms of domestic energy sources, but to the extent they are controlled, they don't realize the benefit; if they are not controlled, I assume what we call windfall profit tax would recoup windfall gains.

But in terms of the actual negotiations that are taking place, they are negotiating for their lives, they are negotiating to stay in the picture; they are negotiating to preserve their source of oil with which to serve our needs, and they are doing it on the best possible terms as far as commitments to volume and their management fees.

Chairman KENNEDY. Do you have any ideas, or suggestions, or recommendations to make to the Congress about what would give the oil companies themselves more bargaining power? Is that possible? Are there incentives that ought to be provided, additional kinds of tax incentives to oil companies that are going to drill outside of OPEC, maybe switch to countries that have a strong capital need? Should we provide some incentives for them to do it?

Those are obviously matters in which the Congress would want to be involved. We do not find the administration making any kind of recommendations or suggestions; it does not seem as if you want to give the oil companies any more power or any additional incentives to move into new areas. If you feel they are representing the consumer interest, shouldn't we be able to maximize that? You don't want to take anything away in terms of divestiture. You are satisfied, apparently, that you gain sufficient kinds of information from the oil companies in terms of their negotiations. So, it seems to me, we are pretty much stuck with the status quo; maybe that is the answer. But, I don't know, again, whether the interests of the consumer are being adequately protected and whether the consumer interests are identical with the major oil interests.

I am trying to find out what role the Government ought to be taking in protecting the interest of the consumers.

Mr. ROBINSON. Well, I think you have raised a very interesting question. I think as we become increasingly dependent on foreign sources, there is an increasing challenge to assure the citizens of this country that the decisions that are being made by our major oil companies are being made in terms that serve our national interest.

I think we have to be concerned not only with how we control the actions of our oil companies to assure that their efforts and their objectives are in harmony with the interests of our citizens, but you also raised the question about the possibility of providing incentives to encourage them more to move in that direction, and I think that is an interesting area for thought.

I do not feel qualified to comment on a specific formula that might be employed, but it certainly is an area that deserves thought and careful consideration.

Chairman KENNEDY. Have you reacted at all to the Krueger report where it has outlined a series of different alternatives, what the role of Government should be in terms of its relationship to the major oil companies?

Mr. ROBINSON. I have not really had an opportunity to study that report. I am not qualified to comment on it.

Chairman KENNEDY. Could you perhaps let us know, and submit a response?

Mr. ROBINSON. I would be glad to.

Chairman KENNEDY. They make a series of recommendations, alternative suggestions, and I think it would be useful to get your reaction to them, whether you think they are useful or helpful, and if so why, or why not.

Mr. ROBINSON. I will be glad to do that and submit it in writing.

Chairman KENNEDY. Congressman Brown.

Representative BROWN of Ohio. I am trying to get a picture of what the situation is in terms of relationships. As I understand it now, we are the largest single consuming country in the world; is that correct?

Mr. ROBINSON. That is correct.

Representative BROWN of Ohio. Our rate of consumption is going up rapidly.

Mr. ROBINSON. It is going up rapidly, it is accelerating as we recover from our recession.

Representative BROWN of Ohio. And our production volume, that is U.S. production in this country is essentially unchanged.

Mr. ROBINSON. It is going down.

Representative BROWN of Ohio. As a matter of fact, it is going down; over the 2 or 3 years since the embargo, it has essentially remained unchanged.

Mr. ROBINSON. That is correct.

Representative BROWN of Ohio. So, then the net result is that we are importing more oil for consumption in the United States now, and the producing, exporting countries are the major source of oil for those countries in which they have deficits of production below their consumption rates; is that right?

Mr. ROBINSON. Yes.

Representative BROWN of Ohio. And so, with our increase in consumption and our leveling off of production, or reduction in production, we become increasingly dependent on these oil-producing countries. The countries have drawn themselves into a cartel which says in effect, "We don't care who does the technical work, we are going to control the price of what we sell"; is that right?

Mr. ROBINSON. That is correct.

Representative BROWN of Ohio. And they are essentially controlling the market share that they sell?

Mr. ROBINSON. Yes; they are prepared to reduce their share of the market—like Saudi Arabia—to protect the price.

Representative BROWN of Ohio. But have they decided among themselves what share of the market each country is going to get?

Mr. ROBINSON. No. Really, it boils down to Saudi Arabia, their great unused capacity and very little need for the revenues at the level they are now generated. They can cut back their production very significantly and take a disproportionate share.

Representative BROWN of Ohio. They have the highest quality product in the world.

Mr. ROBINSON. Yes.

Representative BROWN of Ohio. So, in fact Saudi Arabia singlehandedly can say to Iran, or Libya, or somebody else, Nigeria or Venezuela, "If you mess around with the price, we will turn on the spigot and flood you out of the market place."

Mr. ROBINSON. They have threatened to do that from time to time.

Representative BROWN of Ohio. So, the result is that within each country they know essentially what they can produce, and the price that has been set, and there is no hanky-pankying around with them trying to produce more to get a bigger share of the market.

Mr. ROBINSON. That is generally true.

Representative BROWN of Ohio. Now, if the oil companies would in some way be permitted, the multinational U.S. companies would in some way be permitted to suspend with the antitrust laws and permit them to coalesce and decide who they are going to buy from, and they all shifted to Nigeria, or something, the possibility would exist that the Saudis would settle the Nigerians' hash for them because the Saudis would control whether the Nigerians would be able to sell an increased amount of oil to the consuming countries, or the consuming companies; is that right?

Mr. ROBINSON. There are very definite limitations on what you can do there, intrastructure limitations, production capacity, increased production. The Saudi Arabians can go down to 5 million barrels a day and still get along without any problems. So, you really do have a situation where the attitude of Saudi Arabia is the key.

Representative BROWN of Ohio. In fact, the Nigerians could not meet production, or the Venezuelans.

Mr. ROBINSON. Not any significant shift in volume.

Representative BROWN of Ohio. So that the companies must set up rather long-term acquisition arrangements with the supplier countries, the countries that have the product to sell, and in fact stick with that, because there is no prospect that they could move around in the market as casually as a consumer might move around among filling stations, for instance.

Mr. ROBINSON. That is correct, there is a limitation on how much they can move around. And second, they cannot afford to jeopardize their source, looking at the long term.

Representative BROWN of Ohio. So, if they suddenly walked away from the Venezuelans, for instance, to the Saudis, the Venezuelans would find another purchaser for their product.

Mr. ROBINSON. Venezuela would be hard pressed because of the geographical situation and the dependence on the U.S. market, it would create problems. But they are making their own decision to cut back production to preserve their finite reserves of oil, so, within a certain limit they are prepared to have a reduction in their export volume.

Representative BROWN of Ohio. The Venezuelans in comparison to the Saudis, or anybody, any producing country in comparison with the Saudis are potentially small producers, are they not?

Mr. ROBINSON. Yes.

Representative BROWN of Ohio. They have a relatively small share of total reserves, that is, proven reserves over what the Saudis have in proven reserves; is that correct?

Mr. ROBINSON. That is correct. As we look at the possibility of shifting from one source to another, we cannot overlook the threat of political confrontation which could create some very serious problems in our relations with those countries. So, in terms of our national interest, there are limitations on what we can do in this area.

Representative BROWN of Ohio. One of the things that has been suggested is that we ought to have national purchasing, that the United States ought to purchase in the world market, the Government ought to purchase for the companies all of the oil that this government would use.

What problems would flow from that? You just made reference to international relationships. If we suddenly said to Venezuela, "Unless you are going to drop your price, we won't buy anything from you." Do we have that kind of leverage at the Federal level, if we purchased all out of some bureau here in Washington?

Mr. ROBINSON. Well, I think we could develop a leverage, I think that is clear; but whether it would be wise to use that is an entirely different question. I think we live in an interdependent world, and to move unilaterally in that way would create some very serious problems. U.S. investments in Venezuela, for instance, would be in jeopardy; the source of critical materials in other areas would be threatened.

Representative BROWN of Ohio. In other words, if we walked out on the Venezuelans they could simply say, "We will nationalize everything you have, investments in Venezuela, go jump into the lake."

Mr. ROBINSON. No one could predict with certainty how the emotions would run, but certainly, that would be a very likely possibility.

Representative BROWN of Ohio. What could the Saudis do to us?

Mr. ROBINSON. Well, we are really dependent on the Saudis for an increasing percentage of our oil imports. Iran does not have oil for more than 15 or 20 years at the present levels. There are other countries that are exploiting their oil at accelerated levels. The Saudis have a dependable source for many, many years to come.

Representative BROWN of Ohio. Well, the British have just discovered new oil and they are our relatives. Why don't we go to our relatives? Why don't we just say "nuts" to the Saudis and get our oil from the British?

Mr. ROBINSON. From the British?

Representative BROWN of Ohio. Yes; the new finds in the North Sea.

Mr. ROBINSON. No. 1, that is going to be quite expensive oil, and the British probably will "out-OPEC" OPEC in terms of price. And second, there will be a limited quantity of that oil available for export, and will not be very significant in the world market.

Representative BROWN of Ohio. It would not meet our needs?

Mr. ROBINSON. Of course not.

Representative BROWN of Ohio. Well, then the problem becomes, I guess, that even if the Federal Government took over the negotiations for all the oil companies, we would be constrained in ways similar to those which already constrain the oil companies.

Mr. ROBINSON. Probably more constrained because the oil companies, our international oil companies, the U.S. oil companies are purchas-

ing and shipping to all other markets, so they can exercise greater control than could the U.S. Government purchasing only for shipment to this market. We would have less flexibility, we would be more constrained by political considerations. It seems to me it would greatly limit our flexibility, doing the kind of thing you are suggesting.

Representative BROWN of Ohio. My time is up, Mr. Chairman, just one final question. What would happen if the Saudis said, "We want to sell to the United States for the same price we sell to the Japanese, or Germans"?

Mr. ROBINSON. Higher, or lower?

Representative BROWN of Ohio. "You know, the United States has been shopping around here and they are going from store to store, shopping. So, when the United States comes around the next time we are going to raise the price for them and drop the price for the Germans and Japanese."

Mr. ROBINSON. Well, a more serious threat would be that they would cut us back, and reduce their supply. It seems inconceivable to me that they would quote a different price, at least that idea has never been suggested; obviously, embargo has been employed, but for political reasons.

It is a hypothetical question that I cannot answer. I suppose anything could happen when you exercise that kind of control.

Representative BROWN of Ohio. There probably would be trouble right here in the city.

Mr. ROBINSON. Yes.

Representative BROWN of Ohio. Thank you, Mr. Chairman.

Chairman KENNEDY. Are you aware if any of the European countries have been using the influence of their government in trying to get reductions in price from any of the OPEC countries?

Mr. ROBINSON. The oil companies?

Chairman KENNEDY. Yes; in terms of the last, let's say in terms of the last 3 or 4 months.

Mr. ROBINSON. I think all of the oil companies are competing, and to the extent they can reduce the cost of their oil, they improve their competitive positions.

Chairman KENNEDY. I am referring specifically to the efforts of the British Government for BP and Shell, in terms of reduced costs.

Mr. ROBINSON. They, again, are purchasing under the Iran consortium arrangement in which they have a margin of 22 cents per barrel and that is the only economic consideration that is under negotiation.

Chairman KENNEDY. Well, did they not achieve that in the period of the last 3 or 4 months?

Mr. ROBINSON. They induced Iran to increase the differential between light and heavy crude by 9.5 cents.

Chairman KENNEDY. As I understand it from those negotiations, there was a strong intervention by the British Government in those negotiations, which did have a response, a reaction of 10 to 12 cents a barrel.

Mr. [illegible]. Well, the revision of the differential between light and [illegible] sult of [illegible] all of the oil company purchasers [illegible] British Government refused to intervene in negotiations [illegible] rage

them to do, on the basis that BP was a private company and therefore the Iranians would have to deal with it as a private company, even though the British Government controls a very large portion of the stock. But in spite of Iran's pressure on the British Government, the British, as far as I know, did not become involved in that effort.

Chairman KENNEDY. The United Kingdom controls 76 percent of BP.

Mr. ROBINSON. That's too high. They still said, "This is a private company, Iran, you must deal with them."

Chairman KENNEDY. Why don't the Europeans look at it the way we do, the French and the British, why don't they show the same kind of laissez faire attitude we do; why are they so intimately involved in hard negotiations that in recent times have resulted in favorable negotiations? I am talking about the 10 to 12 cents, obviously not about breaking OPEC. But obviously they have recognized the range of the limitations, but have some impact.

Mr. ROBINSON. I think our companies have just as much impact. We all benefited by the same differential. It was published and applied to all sales of heavy crude.

Chairman KENNEDY. Yes; but the record shows that BP and Shell took the lead on it. It was not the U.S. Government, it was the British Government that took the lead on it.

Mr. ROBINSON. Well, the information that I had is different and I was personally involved in terms of the Iranian Government's attempt to pressure our companies to take more oil. We made it very clear that without an increase in the differential between light and heavy crude our companies could not purchase additional crude. The result of that pressure, combined with what undoubtedly came from Great Britain, was the change in the differential. I do not believe it would be fair to say that the British Government played a more important role than we did in that.

Chairman KENNEDY. The point that I think I was attempting to make earlier is that there are significant differences in terms of interests of many of these OPEC countries, different interests that they have; different capital structures; different needs within their countries in terms of formation and terms of progress within their countries.

It is of real concern to me why we are not maximizing the areas of difference and trying to take full advantage of them in the interest of the American consumer. If we start off from the point of view that we can't do anything about Algeria, for example, because Saudi Arabia will respond in such and such a way, I mean, you are really indicating that as far as the administration is concerned they will do what they have to in terms of the overall price; and that we are not really prepared to intervene in any significant or important ways.

We may be very limited in what can be done, but I [illegible] convinced to date that we have made very much of an effort and attempted to do very much. I may be wrong about that, but I [illegible] I am.

I think whether it is a formalized kind of struct[illegible] been suggested in the Krueger report, or whether it is done [illegible] other kinds of governmental intervention, that is, the [illegible] ce and a[illegible], and power, in ways [illegible] a-

tional interest, I believe we should at least try to insure greater protection for the American consumer. This is something which I, quite frankly, would like to see more of. At least we should try to develop greater incentives toward this end.

Mr. ROBINSON. I don't disagree with you on that. I would like to point out one area in which we are trying to move, which I think holds great promise. A number of oil companies have had exploratory preliminary drillings, or geological reconnaissance in various parts of the world, and they have told me, a number of them—and that is substantiated by evidence—in Latin America, Africa, and South East Asia there are very large potentials for additional oil and gas that can be developed very rapidly. The oil companies are prepared to move in and explore, and carry forward a development program if they had assurance as to the basis on which they were going to be able to extract and export that oil and gas if and when it was developed.

Recognizing this problem, I believe that perhaps one of the most significant things we can do to shift the supply-and-demand balance. diversify sources, and encourage the companies to go in and develop these oil and gas resources, would be to provide a multilateral insurance scheme of some kind. We could provide them with the support that they need to take on the technical and commercial risks that they are prepared to assume.

This is really the basis on which we proposed the formation of the International Resources Bank at Nairobi during the last month. We think that this type of multilateral institution, operating under the aegis of the World Bank, assuming the political risk, could bring about a change in the positions of our oil companies and other resource development companies, and would bring about a significant change in the pressure on the supply-and-demand balance that will influence future prices.

So, this is an area in which I think we can move and should move aggressively in the search of solutions. But I don't disagree with you that we must find ways to assure that the decisions of our oil companies and their operations are being conducted in a way that is in harmony with our national interest.

Chairman KENNEDY. Of course, the oil companies themselves, some of the major ones, have been rather cool toward that idea.

Mr. ROBINSON. Exxon expressed some concern about the proposed Bank but most of the oil companies that have talked to me have indicated that without this kind of a solution there is no way they could move.

Chairman KENNEDY. I have just two more questions. The first one relates to the preliminary discussions between some U.S. defense contractors, General Dynamics and Boeing, that are considering bartering for Iranian crude with American military products. Can you tell us where those negotiations are?

Mr. ROBINSON. They have not proceeded very far, and I don't know if any of them will ever come to fruition. But Iran, in search of incremental oil sales, and in need of additional cash generation, in order to preserve the level of their purchasing of U.S. equipment approached

these companies—the Iranians were the ones who took the initiative—to see whether or not a barter arrangement could be developed.

We have not opposed that. We would not have been involved in it but we will be watching it closely to insure the protection of our national security interests.

Chairman KENNEDY. Is someone going to tell us—I am sure they are going to tell us how that is going to benefit the American consumer. Are we indeed going to be better off with bartering arrangements, or not?

Mr. ROBINSON. The principle of the deal is to exchange oil for equipment. What the specific terms are I don't know, and until we know whether or not any such arrangement will be concluded, we are really not in a position to comment on it.

Chairman KENNEDY. Just one final question. You indicated you met with the companies themselves in terms of the negotiations. Have you met with any consumer groups to find out what their views of the negotiations are?

Mr. ROBINSON. I have not met with any consumer group, but we are clearly concerned with consumer interests in the State Department, and we insure that every decision we make in the State Department is based on consumer impact studies.

Chairman KENNEDY. It might be useful to get some kind of direct input, or comments from consumers. There are some good ones around. We don't have to accept their conclusions on any particular issue, but it seems to me they have served the public interest in a number of very important areas exceedingly well, and perhaps they will have some ideas.

Mr. ROBINSON. I think that is a helpful suggestion, and we welcome it.

Chairman KENNEDY. I want to thank you. I want the record to indicate that I had a chance to meet with the Deputy Secretary in Saudi Arabia. That was my first chance, very briefly, out there. I know the high regard in which you are held in those countries I traveled in. I know that yours is a complex and tough assignment.

I want to thank you for your comments here this morning. Your responses have been forthcoming and helpful to us in trying to understand this complex problem. We may not agree on every issue but your testimony has been candid and straightforward. That, in itself, is an accomplishment. We appreciate very much your willingness to share your views with us ths morning, and we look forward to working with you in the future.

Mr. ROBINSON. Thank you very much, Mr. Chairman.

Chairman KENNEDY. The hearing record will be left open for any member wishing to pose additional written questions of the witnesses. They will be placed in the hearing record at this point.

[The following questions and answers were subsequently supplied for the record:]

RESPONSE OF HON. EDWARD O. VETTER, ACTING SECRETARY OF COMMERCE, TO ADDITIONAL WRITTEN QUESTIONS POSED BY CHAIRMAN KENNEDY

Question 1(a). We understand that a surplus of up to 600,000 barrels of oil per day may develop on the West Coast as a result of bringing both Naval Petroleum Reserve Nos. 1 and 2 and the Alaskan North Slope fields on to production.

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The Japanese Minister of International Trade and Industry recently asked you to permit early exports of Alaskan crude to Japan. Of course, this would be highly controversial. The implication to OPEC exporting countries is that:

(1) The United States is shutting in domestic petroleum while continuing to import oil from OPEC; or in the alternative,

(2) The United States is exporting oil while continuing to import OPEC oil.

In either case an embarrassing situation is developing wherein the U.S. is not utilizing all its energy potential for domestic purposes. The result of such situation(s) can have enormous implications when OPEC members convene at some future date to consider price increases.

As a consequence:

What are the foreign policy implications of this Alaskan situation?

Answer 1(a). It is the Administration's policy to foster crude oil production from the Alaskan North Slope and the Naval Petroleum Reserves as an essential part of the drive to reduce our vulnerability to the actions of foreign producers. One of the immediate consequences of opening up these new domestic supply sources may be a temporary surplus of crude oil on the West Coast because of the post–1973 economic slowdown, the Arab oil embargo, subsequent higher prices, conservation, and delays in adapting the transportation system. We recognize this possibility and are studying its likelihood as well as its potential dimensions and duration, and the ways in which it could be handled with the least possible disruption of both oil production and established distribution and marketing patterns.

During a 1976 visit to Tokyo, the possible international availability of Alaskan crude was discussed with Minister Komoto. At that time I stated that I could not immediately comment on the matter, although some kind of oil replacement arrangement might be considered. However, even if such an arrangement could not be worked out because of legal restrictions (imposed by export control programs currently in force under EPCA and other legislation), no change in our traditionally close and cooperative relations with Japan would be anticipated. This is particularly true since no Japanese oil supply problems are envisioned during the period when a surplus may exist on the West Coast.

Question 1(b). What is the U.S. Government doing to facilitate the oil companies' request to pipeline this Alaskan crude to the Mid-West?

(1). We understand that it will take at least one year from now for the Sohio Oil Company to secure approval from the FPC for pipeline rights to move Alaskan oil from the West Coast to the Mid-West. What is the Energy Resources Council doing to expedite and coordinate this FPC approval?

Answer 1(b). We should like to note that FPC, an independent regulatory agency, does not regulate the transport of oil via pipeline. What is before FPC is an application by El Paso to abandon about 670 miles of natural gas pipeline from the California/Arizona border to Midland, Texas. This application must be granted before Sohio can proceed to secure the necessary permits from the Interstate Commerce Commission to lease and convert the El Paso gas pipeline to transport the crude oil. At that time, construction of storage tanks, port facilities and the new segments linking the existing pipeline with a marine terminal on the West Coast can begin provided that the State of California, the Corps of Engineers and the Department of Interior have issued all necessary permits. The Environmental Impact Statement associated with the proposed Federal actions is scheduled for completion in March/April 1977, and decisions could be made 30 to 60 days thereafter. FEA has intervened in the abandonment proceedings to request expeditious handling of the matter. Hearings began in early July and have reached the point at which adversary testimony will be heard beginning October 20. A draft of the proceedings is expected to be published for comment about November 15. Subsequent reviews and hearings will probably be concluded by the end of February 1977. The ERC is following the situation closely.

Question 1(c)(1). What are the FEA and ERC doing about this total Alaskan oil situation? In your answer discuss:

(1) We understand that "oil swaps" are now being considered as a means of avoiding the direct export sale of Alaskan oil. Explain in detail how ERC intends to monitor these "swaps" so as to comply with the spirit of the law not to export Alaskan oil for sale.

Answer 1(c)(1). At the time the Trans-Alaskan Pipeline Authorization Act was being debated, it was believed that all of the North Slope oil would be con-

sumed on the West Coast. Declining production in California and a continued growth in petroleum consumption at its historical rate of 4 percent per year would have resulted in the full utilization of Alaskan oil in Petroleum Administration for Defense District (PADD) V, which comprises Alaska, Hawaii, Washington, Oregon, California, Nevada, and Arizona.

Due to a combination of events which have occurred since 1973, this assumption no longer appears to be valid. The economic slowdown, the Arab oil embargo, subsequent higher petroleum prices, and positive conservation measures resulted in a decline in oil consumption of over 6 percent in 1974 and 1975. In addition, the Congress recently authorized full production from Naval Petroleum Reserve No. 1 (NPR-1) at Elk Hills, which will make available 200,000 B/D of crude oil to PADD V within 6 months and an additional 100,000 B/D when fully developed.

As a result of these changing events, ERC directed FEA to lead an interagency effort to assess how these changes would affect the transportation and distribution of Alaskan oil. This effort is in compliance with Public Law 93-153. which authorized TAPS construction. Public Law 93-153 states that "The President shall use any authority he may have to insure an equitable allocation of available North Slope and other crude oil resources and petroleum products among all regions and all of the several States."

The ERC effort involves participation by the Environmental Protection Agency (EPA), the Department of Transportation (DOT), the Department of the Interior (DOI), and the Department of Commerce (DOC). In addition, regular meetings have been held with representatives from the PADD V States to review preliminary materials and to exchange information.

The major objectives of the study are:

To analyze the current and future supply and demand situation in PADD V, and

To evaluate transportation alternatives for the disposition of North Slope oil. The evaluation of alternatives will consider economic and environmental factors, timing, regional considerations, international consequences, and problems associated with implementation.

The ERC study effort has resulted in an initial rough draft which is under review by the affected states. The draft does not contain recommendations with respect to particular courses of action in its present form. Instead it reviews the technical, economic and instittuional considerations pertaining to the available alternatives for distribution of Alaskan crude oil, including those associated with various types of possible exchange arrangements. After state and agency comment have been rceived, FEA will prepare an options paper for consideration by the ERC. If, at that stage, temporary international exchanges are among the options to be considered, the ERC will have to determine whether an adequate basis exists for beginning work on a Presidential finding with regard to the feasibility and desirability of such temporary exchanges. You may rest assured that any arrangements to be approved by the ERC will take full account of the intent of the statutes presently in force with respect to the disposition of Alaskan crude oil.

Question 1(c) (2). Give us a review of the current progress being made on the government's study for the approval of Alaskan gas production for transport and marketing.

Answer 1(c) (2). There are three competing proposals for transport of natural gas under study by FPC. They are:

The El Paso project which involves a gas pipeline paralleling the oil pipeline now under construction. Under this proposal, the natural gas would be liquefied on the south coast of Alaska and transported to the contiguous 48 states by LNG carrier.

The Arctic gas project which would move both Alaska North Slope natural gas and gas from Canada's MacKenzie Delta across Canada to Midwest and Eastern markets through the same pipeline.

The Alcan proposal for a natural gas pipeline which would follow the oil pipeline now under construction to the point at which it intersects the Alcan highway and proceed through Canada along the Alcan highway to lower 48 markets. This proposal, in contrast to the Arctic gas project, does not contemplate transport of Canadian gas.

A bill cited as the "Alaskan Natural Gas Transportation Act of 1976" (S. 3521) has recently been enacted. Among its provisions, the bill contains a deci-

sionmaking schedule which would require selection of one of these three routes by the end of 1977.

Question 1(c)(3). What is the need to explore and develop Naval Petroleum Reserve No. 4 on the Alaskan North Slope at this time? Would it not be more economically prudent to wait until private oil companies drill more exploratory wells in closer proximity to NPR–4?

Answer 1(c)(3). The size of Naval Petroleum Reserve No. 4 (NPR–4) is many times that of the Prudhoe Bay area and little information on NPR–4's oil and gas potential can therefore be obtained by more extensive Prudhoe Bay drilling. While development of NPR–4 is many years off and must be considered in the context of adaptation of our distribution system to changes in the location of domestic production, we need to know the full extent of our petroleum reserves for purposes of planning and public policy. The recently enacted Naval Petroleum Reserves Production Act (NPRPA) mandates Government exploration of NRP–4, but authorizes no development or production of petroleum discoveries. NPRPA (Section 105) further mandates a Federal agency study, to be conducted in consultation with representatives of the State of Alaska, to determine the best overall procedures to be used in the development, production, transportation and distribution of petroleum resources which may be found in NPR–4. The study will also address the economic and environmental consequences of the alternative procedures which will receive consideration. Semiannual reports on the implementation of NPRPA's Section 105 are required to be submitted to the Committees on Interior and Insular Affairs of the Senate and the House of Representatives until the transfer of jurisdiction over NPR–4 to the Department of the Interior in June 1977. Annual reports are required thereafter until the study's completion by the end of 1979.

Question 2. As there are in excess of 1.0 billion barrels of oil (B/O) reserve in Naval Petroleum Reserve Nos. 1 and 3 and these reservoirs are expected to be producing between 200,000 and 300,000 barrels of oil per day (BOPD) in early 1978 (which also happens to be when the salt domes would be ready for "strategic storage"), would it not be prudent and practical to use these Naval Petroleum Reserves as "strategic storage?"

Answer 2. Naval Petroleum Reserve No. 3 in Wyoming is estimated to be capable of yielding only 12,000 barrels a day (B/D) after five years' development and must therefore be regarded as quantitatively insignificant in the context of the needs of the strategic storage program.

Naval Petroleum Reserve No. 1 (Elk Hills, California) contains a heavy proportion of low gravity oil with high sulphur content. Judging by the distribution of bloc offerings during the Navy Department's auction of one-year Elk Hills delivery contracts earlier this year, about one-third of the anticipated September 1976 production of about 105,000 B/D will be 20–25 degree API crude oil, a highly viscous crude which yields a comparatively low proportion of light petroleum products and which is poorly suited as input to Gulf and Eastern refineries except in cases in which it can be blended with large amounts of high gravity oil. Newer import-based refineries in tihs country have typically been set up to process crudes in the 30–40 degree API range, with 34 degree API Arabian Light being the bench mark crude. This segment of the Elk Hills production is therefore not suitable for strategic storage because its use in an emergency would depend on the availability of substantial amounts of light crude for blending. A substantial portion of these light crudes normally come from the Persian Gulf and can therefore be expected to be in immediate short supply in an embargo situation. It would therefore be counterproductive to channel low gravity Elk Hills crude into storage, as costly and time-consuming downstream conversions and additions would be likely to be necessary before it could be processed in the Gulf Coast refineries.

As for the remainder of Elk Hills production, quantities which would make a significant contribution to the strategic storage program would not be available before early 1980. Elk Hills now has a capacity of 160,000 B/D. The development work required to bring on an overall production increase of 140,000 B/D, for a total of 300,000 B/D, will take about 3 years counting from the beginning of 1977. Prior to 1980, transportation capacity would also be a problem. While pipeline capacity capable of carrying 350,000 B/D from the Elk Hills fields is required by legislation to be in place by late 1979, pipeline capacity at this time is less than 50,000 B/D.

Based on these considerations, it has been considered prudent to emphasize acquisition of high gravity crudes of domestic origin other than Elk Hills and im-

ported crudes from Nigeria and the Persian Gulf for the strategic storage program. The present emphasis does not of course preclude consideration of the use of some of the lighter Elk Hills crudes on an exchange basis at a later stage in the storage program.

Question 3. Are there any conflicts between U.S. domestic oil taxation policy and foreign policy objectives of increasing oil supplies from non-OPEC sources? In your analysis, note any change in foreign oil investment since the removal of the foreign tax credit and percentage depletion in:

(a) Non-OPEC foreign sources;
(b) U.S. domestic;
(c) OPEC countries.

Answer 3. Oil tax policies have changed twice in the past two years. These changes are reflected in the Tax Reduction Act of 1975 and the Tax Reform Act of 1976.

The Tax Reduction Act of 1975 resulted in a major reduction in depletion benefits. In general, its passage reduced incentives to invest in domestic oil and gas exploration and development. Since percentage depletion had no effect on foreign investments, due to the operation of the foreign tax credits, the overall net effect of this change was to make domestic investment in oil and gas comparatively less attractive. The obvious reduction in cash flow which resulted from the loss of depletion (without corresponding increases in prices) will lead to less domestic investment in oil and gas than would have been the case in the absence of the statute and it will thus ultimately result in increased demand for oil imports. This, in turn, will tend to enhance the attractiveness of investments abroad, both in OPEC countries and elsewhere.

Provisions with respect to intangible drilling costs have, on the other hand, had the opposite effect. Prior to 1975, the tax treatment of intangible drilling costs for both foreign and domestic operations was virtually identical. The provisions of the 1975 legislation, by eliminating deduction of intangible drilling costs with respect to foreign operations, in effect, reduced the relative advantage of foreign oil investments by American companies. This lessening of the attractiveness of foreign oil investment also applied equally to both OPEC and other countries. In addition, prior to the 1975 legislation, excess foreign tax credits could be used by U.S. companies to shelter U.S. investments in shipping, i.e., tanker operations. This may have been considered as an incentive to foreign oil investment at that time. The 1975 and 1976 Acts eliminated the possibility of generating excess foreign tax credits in oil production.

The 1976 law had several provisions which went beyond the 1975 changes. If all other factors are held constant, these provisions may further tend to reduce the attractiveness of oil and gas investments in foreign areas. Mainly, the 1976 changes relate to the treatment of intangible drilling costs.

Comparing the measures of the Tax Reduction Act of 1975 and the Tax Reform Act of 1976, we conclude that on balance the disincentives to domestic exploration and development have been more significant than those in the Acts applying to foreign investment in oil and gas. This is a purely qualitative judgment, however, as there has been insufficient time for data series to be defined and established with respect to the new tax provisions' impact on investment.

In the context of estimating the impact of recent tax changes on investment in oil and gas in the U.S. and abroad, we should like to emphasize that it is extremely difficult to separate tax-related changes from those resulting from changes in non-tax policies. Among the latter, we would consider that domestic price controls and uncertainties with respect to potential nationalization and contract changes by host governments abroad have been quantitatively the most significant. Again, we do not have a precise fix on the quantitative importance of the relatively more stable domestic economic environment, although we suspect that such considerations loom large in U.S. internal oil company investment decisions.

With regard to the distribution of oil and gas investment between OPEC and non-OPEC nations, we note that U.S. tax laws apply equally to investment in all foreign nations.

Question 4. What is the U.S. Government doing to increase United States exports to OPEC countries?

Answer 4. U.S. Government efforts to increase U.S. exports to the member countries of OPEC are concentrated in the U.S. Department of Commerce (USDOC),

Bureau of International Commerce (BIC), although other agencies are involved indirectly. The responsibility for eight of the thirteen members (Saudi Arabia, Iran, Iraq, Kuwait, United Arab Emirates, Qatar, Algeria and Libya resides with BIC's Commerce Action Group for the Near East (CAGNE) while BIC's Office of International Marketing (OIM) is responsible for the remaining five members (Indonesia, Nigeria, Venezuela, Ecuador, and Gabon).

In addition to intensified application of standard USDOC export promotion programs such as Trade Center Shows, Trade Fairs, Trade Missions, Technical Sales Seminars, Catalog Shows, In-Store Promotions, and the Foreign Buyers Program used to expand the U.S. commercial presence abroad, USDOC has applied its export expansion expertise in the following manner:

CAGNE

Was organized in order to focus USDOC resources on expanding trade with the Near East and North African markets;

Participates in seminars throughout the United States to familiarize the U.S. business community with the opportunities for increased sales and the methods to exploit them;

Has initiated a Country Market Sectoral Survey for Iran, second largest oil producer in OPEC, that will be the first comprehensive market research study ever undertaken in Iran. After distribution to the U.S. business community, it will be an invaluable asset to export expansion;

Maintains a Business Facilitation Staff in order to assure an increasingly active role for U.S. architectural, engineering, and construction firms in booming construction projects in the Near East;

Supplies economic and commercial information unavailable elsewhere, yet necessary to the U.S. business community for market penetration; and

Staffs an active USDOC role, in conjunction with the Departments of Treasury and State, in Joint Economic Commissions that have been established with Iran and Saudi Arabia. The commercial focus of these commissions is oriented toward increasing U.S. exports of goods and services.

OIM

Has produced and distributed a Country Market Sectoral Survey for Nigeria providing necessary research material to the U.S. business community where little or none existed before;

Has initiated a "Sell in Venezuela" campaign which will include distribution of the recently published Country Market Sectoral Survey for Venezuela and a series of "Marketing in Venezuela" seminars;

Has stationed a four-man commercial task force in Venezuela to assist the U.S. business community in its efforts to increase export sales in Venezuela;

Participates in a continuing series of bilateral dialogues with Indonesia in order to strengthen the U.S.-Indonesia economic and commercial relationship; and

Has stationed a USDOC representative in Indonesia to supervise a local firm gathering material for a Country Market Sectoral Survey for that country.

Question 5. Please explain the Energy Resources Council policy towards the importation of Liquefied Natural Gas (LNG). In your analysis please discuss:

(a) Pricing.

(b) Availability of supply from:

(1) Non-OPEC sources.

(2) OPEC sources.

(c) U.S. ability to handle these imports.

(d) Advance payments by U.S. companies to develop these foreign sources and Federal tax treatment of these advance payments.

(e) The FPC procedure and policy for granting LNG import permits.

(f) The amount of LNG available for imports. How much LNG will be needed by 1985?

(g) The advantages or disadvantages of increasing LNG imports relative to oil.

Answer 5(a)–5(g). On February 22, 1976, the President directed the Energy Resources Council to develop a new national policy regarding imported liquefied natural gas (LNG). An ERC Task Force was established to address the major policy issues relating to the importation of LNG: the role of LNG imports in supplementing U.S. domestic gas supply in the decade ahead; the national security and economic implications of proposed and pending LNG import projects, particularly the implications of dominance by one or a limited number of countries as LNG suppliers to the U.S.; potential regional dependencies in the U.S. on imported LNG; the pricing of LNG imports; the role of MarAd and EximBank financial assistance in LNG tanker construction and infrastructure development in exporting countries; and whether imported LNG should be limited to a specific target amount within a specific time frame.

In its policy review, the results of which were made public in August 1976, ERC concluded that LNG imports were needed as a supplemental source of natural gas, but also that the United States would be well advised to limit its long-run dependence on all energy imports, including liquefied natural gas.

After consideration of a range of alternatives, ERC decided to recommend to FPC that LNG imports from a single country be limited to 0.8–1.0 Tcf/yr, for national security reasons. ERC further concluded that about 2 Tcf/yr. was an acceptable national level of import dependency based on the specific country limits set above.

The policy announced by ERC in August was designed to encourage diversification of sources and to facilitate attainment of the national target level. The target of 2 Tcf/yr. was not announced as a quota, but represented an acceptable level of national dependency (about 10 percent of expected natural gas demand), which could change depending upon domestic policy developments.

With respect to the specific issues raised in the question cited above, the following is submitted:

(a) *Pricing.*—In its policy review, the ERC concluded that rolled-in pricing for existing high priority customers and incremental pricing for lower priority or new users are desirable where administratively feasible. This policy statement is intended as a recommendation for FPC and state and local authorities. ERC will continue to review the pricing issue in the context of all natural gas supplemental fuels.

New natural gas supplies have traditionally been priced on a "rolled-in" or averaged basis to the consumer. An alternative approach would be to price the supplies to the consumer on a marginal or "incremental" basis, in order to present the consumer with the full economic cost of each new supply source.

Preliminary analysis shows that the method of pricing could affect the size of the LNG import market, and would affect the sectoral composition of demand. It is clear that LNG imports needed for existing high priority residential and commercial customers cannot realistically be priced on an incremental basis at the retail level. Such a pricing treatment might not be administratively feasible, and social inequities would inevitably appear to result from an attempt to draw distinctions, such as forcing some existing residential customers to pay for LNG at a multiple of the price of domestic gas which would have to be paid by other residential customers.

ERC believes that expensive, relatively insecure LNG imports probably should not be made available at rolled-in prices to lower priority domestic users, or in support of new growth. Rolling-in prices mask to the users the full economic and security costs of the resource, and provide disincentives to domestic supply development.

There remain several complex issues dealing with intermediate categories of users, provisions for curtailment, and coordination with state and local authorities. Incrementally priced gas would probably have to be kept free from curtailment in order to have a viable market; yet, such a policy would force gas to lower priority users and could result in inequities. Moreover, unless incremental pricing was mandated all the way to the burner tip, which means consistent policies at the state and local levels, its effectiveness as a means to control import quantities could be largely offset.

(b) *Availability of supply from:*

(1) *Non-OPEC sources*—At present only a few countries have agreed to export LNG to the United States or are in some stage of negotiation

for possible LNG ventures. Although a number of non-OPEC countries have been approached, only one, the USSR has given serious consideration to an LNG venture with the United States. The maximum amount of LNG being discussed with the USSR for shipment to the United States is about 1.1 Tcf/yr.

(2) *OPEC sources*—All other sources presently in various stages of approval or negotiation are members of OPEC. These sources and the maximum quantities currently under consideration are:

	Tcf/yr.
Algeria	1.0
Nigeria	0.6
Iran	0.8
Indonesia	0.2
Total	2.6

(0.4 Tcf/yr. already approved by FPC.)

(c) *U.S. ability to handle these imports*—United States approval of any LNG projects are contingent on the construction and operation of appropriate facilities both in the United States and the importing countries, and on the demonstration that a market will exist for the LNG. Although some concerns have been raised regarding the siting of facilities and the safety aspects of LNG transportation and handling (issues which ERC is investigating further), there does not appear to be any technical or economic reason why the United States should not be able to either physically or economically handle the LNG imports providing current regulations or new regulations are complied with.

(d) *Advance payments by U.S. companies to develop these foreign sources and Federal taxes treatment of these advance payments.*

We have no knowledge of U.S. companies making such payments to foreign sources.

(e) *The FPC procedure and policy for granting LNG import permits.*

FPC has direct regulatory authority over all natural gas imports, including LNG, whether or not the gas crosses state lines after it is imported. This jurisdiction encompasses all facets of the operation other than safety, including terminal facilities, associated pipelines, and all wholesale sales of the gas. FPC certifies the quantity and price of the gas to be imported and sold.

FPC, of course, plays the key role in the authorization of LNG projects. It has the legal responsibility to approve, or not approve, a project. This decision is based on submission of pertinent documentation to FPC and public hearings in which all evidence, including environmental impact data, is made available to the public.

We anticipate that FPC will follow the ERC policy guidelines in approving the LNG projects that come before it.

(f) *The amount of LNG available for imports; How much LNG will be needed by 1985?*

The amount of LNG available for imports now and in the future is contingent on two basic factors: the amount of natural gas worldwide available for LNG export and the availability of facilities to liquefy the gas. At present there are only enough liquefaction facilities in operation or under construction to liquefy. Tcf/yr. of natural gas. If many of the non-U.S. as well as U.S. LNG projects now being negotiated are actually built and put into operation, liquefaction capacity could be from 2–4 Tcf/yr. in 1985.

The ultimate limit, however, is the availability of natural gas and the cost of liquefying and transporting this gas to the consuming country. Although many countries have sizable reserves of natural gas, the very high investment costs and these countries' desire to retain the gas for domestic use has discouraged consideration of LNG exports.

(g) *The advantages or disadvantages of increasing LNG imports relative to oil.*

ADVANTAGES

Natural gas is environmentally a superior fuel in relation to oil.

Almost 60 percent of all households are capable of utilizing natural gas and in general are not readily able to utilize oil.

There is a need for natural gas in this country and decreasing domestic supplies of natural gas have resulted in shortages and curtailments. Since projections indicate that this situation will persist for a number of years. LNG as a supplementary supply will be needed.

There are very few spot markets for LNG; therefore, if there is an economic or political embargo, the exporting country will be deprived of revenue. Since oil has a spot market, the exporting country can seek out these markets and continue receiving revenue.

The exporting country in general has a large capital investment in its liquefaction facility. It is less likely to close down these facilities since the capital investment would be idle.

DISADVANTAGES

A legitimate concern relating to the importation of LNG is the possibility of supply interruption for political reasons (e.g., as in the Arab oil embargo). It is not likely, however, that LNG imports will be more than 7–10 percent of total U.S. gas consumption in the time frame under consideration (1985) and it is expected that sources of supply will be increasingly diversified as new projects receive FPC approval.

An LNG embargo is easier to target than an oil embargo. Since the LNG trade infrastructure is tailored to specific projects, the LNG importer has no alternative sources of supply and must therefore absorb the foregone energy supply resulting from an embargo.

Large capital investments are required for a vaporization plant and for LNG tankers.

The real cost of producing LNG is higher than the cost of natural gas or of petroleum. This disadvantage does not include the possibility of increased prices for gas and petroleum.

LNG requires special handling.

RESPONSE OF HON. FRANK G. ZARB TO ADDITIONAL WRITTEN QUESTIONS POSED BY SENATOR PERCY

Question 1. What is OPEC's attitude toward the development of renewable energy sources?

Answer. On the basis of public statements by high-level representatives of OPEC member countries and on the basis of OPEC member actions in the world's investment makets, it is clear that OPEC recognizes that the fossil fuel reserves of its member countries are not inexhaustible and thus cannot be counted on to support industrialization, infrastructure development and overall economic diversification indefinitely. The realization that industrialization leads to higher per capita energy use is pervasive, as is the notion that ultimately the present exporters of fossil fuels will find themselves in the same boat with the importers with respect to the need to draw on other sources of energy for the maintenance of their economic structure.

The sense of urgency with which individual member countries approach this issue varies widely, of course, depending on the fossil fuel reserve position in each individual case. Nonetheless, most OPEC member countries have shown great interest in recent progress in advanced alternative energy technology—including nuclear technology as well as other methods for extracting energy from renewable sources such as the sun and continuous chemical processes. We are now investigating in various forums whether this situation can lead to some form of producer-consumer cooperation in the R&D field.

Question 2. Prospects for the development of solar energy in many lesser developed countries are often excellent because of the abundant sunshine. If solar energy were exploited it would decrease pressure toward nuclear proliferation. Thus, it would appear desirable for the U.S. to encourage and assist solar energy development to poor countries. Are we doing enough to help less developed countries exploit solar energy?

Answer. Solar energy systems for heating and cooling are approaching commercialization although initial outlays and the need for supplemental backup systems result in high capital costs for such solar energy systems. Moreover, heating and cooling represent only a small part of the developing countries' uses of energy. Far more important are their uses of electrical energy for a-

riculture, transportation and industry. Unfortunately, generation of electricity from solar energy is still many years from commercialization. Thus, solar energy is not a realistic alternative to nuclear and other conventional sources of electric power through the rest of this century.

We are considering ways of expanding assistance to the developing countries in the energy field, including solar energy. The International Energy Institute proposed by Secretary Kissinger at the Seventh Special Session of the General Assembly of the United Nations could be a vehicle for this purpose. U.S. assistance in solar energy must, of course, be responsive to the developing countries' own desires and specific needs for any such assistance and must be attuned to our ability to lend effective support.

Question 3. Given the potential importance of U.S. technology in helping to solve the world's energy problem, what steps should the U.S. be taking to ensure its technical expertise is used in an appropriate way?

Answer. In addition to transfers of technology, which take place through normal commercial exchange, including flow of information under licensing agreements, we have instituted bilateral and multilateral mechanisms for coordination or promotion of energy technology efforts for mutual benefit.

For example, in the field of nuclear energy technology, our agreements for cooperation contain guarantees between cooperating nations and international organizations, that safeguards required by the agreement will be maintained and that no material or equipment provided by the United States under these agreements will be used for nuclear explosives of any kind, and further, that no such material or equipment would be transferred beyond the jurisdiction of the cooperating state except as allowed for in the agreements. In each case, the safeguards are implemented under the auspices of the International Atomic Energy Agency headquarters in Vienna. The U.S. holds such agreements with 29 countries at present.

Non-nuclear weapon states which are members of the IAEA and signatories to the treaty on the non-proliferation of nuclear weapons have committed themselves not to manufacture or otherwise acquire nuclear weapons. Treaty adherents which are nuclear weapons parties agree not to transfer nuclear weapons to any other country. Further, the treaty has a positive obligation for the promotion of nuclear technology for peaceful purposes. In March, Secretary Kissinger, in testifying before the Senate Government Operations Committee, outlined the U.S. policy for consulting with other nuclear exporting countries in an effort to devise a common set of standards concerning safeguards and other controls associated with peaceful nuclear exports. As a result of these consultations, the United States has decided to adopt, as a matter of national policy, certain principles which will govern any further nuclear exports. We have been informed that a number of other countries intend to do the same. These principles include:

Provisions for the application of IAEA safeguards on exports of material, equipment, and technology;

Prohibitions against using assistance for any nuclear explosions, including those for "peaceful purposes;"

Requirements for physical security measures on nuclear equipment and materials;

Application of restraint in the transfer of sensitive technologies, such as enrichment and reprocessing;

Encouragement of multinational regional facilities for reprocessing and enrichment; and

Special conditions governing the use of retransfer of sensitive material, equipment, and technology.

Within the International Energy Agency, we have agreed upon a long-term multilateral energy technology program. In addition, information exchanges with the NATO countries are conducted through the NATO Committee on the Challenges of Modern Society. In the next few months, we plan to explore in the Energy Commission of the Conference on International Economic Cooperation the possibilities for greater international cooperation in energy technology among oil producers, industrialized countries and the non-oil developing countries.

Question 4. Should the U.S. adopt a policy of encouraging the exploration and production of oil from non-OPEC LDC's?

Answer. We strongly favor continuation and expansion of the world-wide search for oil and gas deposits. This is obviously to our benefit, as the develop-

ment of new reserves in non-OPEC countries will tend to put pressure on the existing cartel-imposed world price structure and contribute to the long term supply of additional energy resources. In the context of non-OPEC LDC's, new discoveries or extensions of existing fields would have the additional benefit of reducing pressures on the world financial structure. Non-OPEC LDC's without raw materials or semi-finished products for export have faced particularly severe balance of payments problems which have intensified pressures for international debt forgiveness, for rescheduling of international obligations, and for a heavier proportion of international grant financing in the future.

The United States has proposed the establishment of an International Energy Institute and an International Resource Bank; both of these proposals, which are now under international discussion, would encourage energy resource development in the non-OPEC LDC's. The IRB would stimulate capital flows into oil and gas development within LDC's by providing a form of insurance against political risks which are discouraging such investment.

Question 5. Oil-importing developing countries need as much help in obtaining an adequate food supply, yet there is no effort in sight in the energy field that is on a scale with international aid in the food field. Why is this?

Answer. Although both food and energy problems bear heavily on the developing countries as a group, the nature and causes of the food and energy supply problems and the potential means and sources for short-term mitigation and long-term solutions are different. In particular the position of the United States in global production and supply of food uniquely qualifies us to provide effective leadership to international food assistance efforts. As the largest consumer and importer of oil, the United States is in a different position with respect to meeting the problem which high oil prices imposed by the OPEC have created for oil-importing developing countries. The participants in the Conference on International Economic Cooperation will explore appropriate possible assistance in the energy field to these LDCs.

Question 6. How can we start developing a better cooperative international approach so that not only will needless and costly duplication of research be avoided, but also the potential of developing countries to make use of their unexploited oil, solar energy and other sources will cease to be neglected?

Answer. Key elements of our international energy policy are directed toward greater cooperation by the importing countries in meeting the challenge of the energy problem and assisting energy-deficient developing countries to find and develop their domestic energy resources. We have made an impressive start with the establishment of the International Energy Agency as a vehicle for close cooperation in energy among 19 industrialized countries. The IEA has recently adopted a comprehensive program of long-term energy cooperation through joint efforts in conservation, accelerated production of alternative energy sources and research and development programs. We next intend to translate these commitments into concrete measures and specific programs for rapid implementation.

We are also seeking constructive and mutually beneficial cooperation from the oil producers in assisting the non-oil developing countries. In the Energy Commission of the Conference on International Economic Cooperation (CIEC), we will explore new initiatives and institutions.

For example, our proposed International Energy Institute would primarily be designed to address the energy problems of the non-oil LDCs.

In addition we believe that our proposed International Resources Bank would greatly improve the prospects of these countries in attracting the necessary foreign capital to exploit energy and other natural resources.

Question 7. OPEC has survived the current vast overcapacity and demand drop. Will OPEC survive its next major test in 1978–79 when both the North Slope oil from Alaska and the North Sea oil will be fully in production?

Answer. Assuming a continuation of global economic recovery and growth, incremental North Slope and North Sea production will be absorbed by the respective markets without causing global overcapacity and price pressures in excess of those which obtained in the market for OPEC oil in 1974–75. Thus it is reasonable to assume that since OPEC held together during that period with little difficulty, it will also weather 1978–79.

Question 8. Recently the Organization for Economic Cooperation and Development (OECD) unveiled a code of conduct for multinational corporations and a code of governmental responsibility to firms. Are the OECD proposals likely to

help provide a climate in which multinational corporations can conduct their affairs in an ethical manner?

Answer. Recent revelations in the press suggested the need for international action in this area. The OECD acted positively to face the issue. The members have held a number of meetings to work out the guidelines which, given their broad international participation, have in themselves contributed significantly to establishing a proper climate.

The guidelines themselves specifically provide that multinational enterprises:

Not render and they should not be solicited or expected to render any bribe or other improper benefit, direct or indirect, to any public servant or holder of public office;

Unless legally permissible, not make contributions to candidates for public office or to political organizations; and

Abstain from any improper involvement in local political activities.

These guidelines should work to the advantage of all concerned not only by the support they will provide for ethical courses of action but also by their clarification of what is expected of both host countries and multinational corporations. For the first time, these parties will know where they stand and will be able to measure proposed activities against clear written standards.

Question 9. The Overseas Development Council, and more recently Mr. Jimmy Carter, have suggested that a World Energy Conference should be convened modeled after the World Food Conference held in Rome in late 1974. Any comments on this idea? If it's a good idea, what steps should we be taking now to implement it?

Answer. Following the initial shocks of the embargo and massive price increases of 1973–74 it became apparent to the Governments of leading oil consuming and producing countries that an international conference was needed to avert confrontation and to attempt to define producer/consumer relationships. Our proposal to convene such a conference to discuss the single subject of energy was strongly and flatly opposed by the producers at the inconclusive preparatory meeting in Paris in April 1975. We were able to launch the Conference on International Economic Cooperation (CIEC) in December 1975 only after we had agreed to expand the agenda of such a meeting to include raw materials, development and related financial issues. The CIEC dialogue is now moving from the analytical to a more action-oriented phase. It should be possible to evaluate the progress of the dialogue and the appropriateness and feasibility of subsequent international meetings on energy when this phase of the dialogue is concluded at the end of this year.

Question 10. The socialist countries in the world have traditionally been reluctant to take part in international organizations. How important is their cooperation in tackling the world energy problems, and what can be done to increase their participation?

Answer. The socialist countries as a group are neither major exporters nor importers of the oil which moves in free world trade. Thus, inclusion of socialist countries in the Conference on International Economic Cooperation was not imperative and would not necessarily contribute to the prospects for a constructive and pragmatic dialogue. Nonetheless, Socialist countries do participate in UN-related activities, including the Economic Commission for Europe. As the overall relationship with individual socialist countries permits, we have explored bilaterally the possibilities for mutually beneficial cooperation in energy supply and development. We have a coal research agreement with Poland and an agreement with the USSR to facilitate cooperation in projects of energy research and development.

RESPONSE OF HON. FRANK G. ZARB TO CERTAIN SUBCOMMITTEE MEMBERS' EXPRESSED INTEREST IN THE ANALYSIS AND POLICY OPTIONS CONTAINED IN THE KRUEGER REPORT

FEDERAL ENERGY ADMINISTRATION,
Washington, D.C., October 4, 1976.

Hon. EDWARD M. KENNEDY,
U.S. Senate,
Washington, D.C.

DEAR SENATOR KENNEDY: I understand that after I left the June 8 Energy Subcommittee hearings (on Multinational Oil Companies and OPEC; Implications for U.S. Policy) certain members of the Subcommittee expressed interest

in the analysis and policy options contained in the "Krueger Report." I am writing to provide you with my comments on the Krueger Report and on related issues. I am sending an identical letter to Senator Javits.

The Report was prepared by the Los Angeles law firm of Nossaman, Waters, Krueger, Marsh & Riordan under contract to the Federal Energy Administration. The study effort extended through much of 1974 and the Report, formally titled "An Evaluation of the Options of the U.S. Government in its Relationship to U.S. Firms in International Petroleum Affairs," was published in January, 1975. The issue under consideration was whether and how the U.S. Government presence in international oil activities might protect or otherwise affect the U.S. national and public interest. The Report contained no recommendations, but evaluated and discussed nine broad options for their impact upon the national interest.

A. NATIONAL OPTIONS

1. Removal or modification of federally created incentives and disincentives to international petroleum production.
2. Regulation of oil companies as public utilities.
3. Establishment of a national system to limit petroleum imports.
4. Regulation of all significant foreign supply arrangements.
5. Creation of a petroleum corporation, fully or partially owned by the Federal Government, to engage in international activities.

B. BILATERAL/MULTILATERAL OPTIONS

1. Coordination of international supply arrangements through an industry-wide association of consumer country companies.
2. Bilateral arrangements between the United States and producer governments.
3. Establishment of an international organization to coordinate national petroleum policy with other importing countries.
4. Establishment of multilateral negotiations between producing and consuming countries.

The Krueger Report: (1) takes no position; and (2) cites the advantages and disadvantages of each of the options listed. Some of the options have been implemented by the Administration, while others have been overtaken by events. In still other cases the Administration has made its own evaluation—sometimes in connection with legislative proposals or pending legislation—and has made its position clear. To further clarify our position on the Krueger options, the following paragraphs discuss each option individually:

1. *Removal or modification of Federally created incentives and disincentives.*

The depletion allowance and foreign tax credit have already been changed by legislation and by rulings, and of course the FEA is working to implement the EPCA legislation to return a greater degree of freedom to U.S. oil markets.

To date, Energy Action #1 decontrolled the price of residual oil, #2 restructured small refiner entitlements purchases, #3 decontrolled the price of diesel fuel and home heating oil, #4 decontrolled other middle distillates, and #5, decontrolled naphthas, gas oils and other products. Energy Actions #6 and 7, concerning price and allocation controls on naphtha jet fuels, are now pending in the Congress.

Other parts of the President's energy program as defined in his 1975 State of the Union Message are aimed at removing disincentives, restructuring incentives and altering regulatory practices and procedures. The Administration's position on natural gas deregeulation is a case in point, as is Title VII of the Administration's omnibus energy proposal, the Utilities Act. In general we favor the removal of disincentives, and modifications where necessary of the numerous Federally created incentives, because we feel that the national interest is generally served better in a free market. Toward that end, in May of this year the President called for a general overhaul of the Federal regulatory system to reduce its inherent inefficiencies and the costs it forces on the consumer. He sent a legislative proposal, "The Agenda for Government Reform Act," that laid out an overall approach to regulatory reform, and established three Presidential Task Forces (for FEA; Occupational Safety & Health; and Export Administration regulations) to simplify and streamline government regulations.

2. *Regulation of the oil companies as public utilities.*

This goes against the thrust of the Administration's position on regulation. Our experience after more than 20 years of regulation of interstate natural gas prices clearly demonstrates the undesirable results that can flow from such regulation. Demand for natural gas in the interstate market has been artificially stimulated by the same low prices that have served to constrain exploration and production. As a result our reserves have been shrinking. The oil industry is considerably more complex, since there are many different crudes (speaking in terms of their gravity and content), some imported and some domestic. The complexity of the industry means that regulating it in its various components is even more difficult than regulating the gas industry. And we feel that the public would be no better served. We want to reduce rather than expand, regulation, regulatory bureaucracy, and the problems they introduce into the market and for the nation.

3. *Establishment of a national system to limit petroleum imports.*

Again, this would increase regulations and regulatory activity and thus generally be inimical to the public interest. More specifically, if such a system provided for continuation of current import levels, or for reduced levels, then it could be the equivalent of a self-imposed embargo. Further, as the resultant shortages worsened, increased controls would become inevitable—price controls, allocation programs and perhaps rationing. And at the same time, in the absence of increased incentives, domestic production would continue to decline.

Given these considerations, perhaps the only way that import goals could be acceptable would be if they gave full recognition to our national economic goals as well. And, naturally, any such goals would have to provide the flexibility for the nation to purchase oil to fill its mandated Strategic Petroleum Reserve.

The Krueger Report discusses a less direct type of import-limiting device that could also serve to encourage domestic energy production, a tariff or import fee. The Administration did implement such a system and kept it in place during several months in the first half of 1975. However, as you will recall, there was considerable opposition, and the tariffs were withdrawn. The fees, which were put in place earlier and are much less per barrel, remain as does the authority to impose such fees, which has been tested in the courts.

4. *Increased monitoring and/or regulation of all significant foreign supply arrangements.*

According to Krueger, such an option could be implemented through (1) review of foreign supply arrangements through greater disclosure, or (2) control of such arrangements through a power to review and approve contracts or negotiating terms. The Report treats the pros and cons of each of the alternatives, and points out that the term "foreign supply arrangements" is itself a broad one that might include not only "upstream" arrangements (U.S. company agreements with major producing countries concerning quantities of oil to be purchased) but also domestic investments by foreign governments or corporations in U.S. marketing, refining, or other "downstream" operations. In each of these categories, the U.S. Government now has greater powers than was the case when the Krueger Report was undertaken.

Prior to publication of the Krueger Report, the FEA was already collecting transfer pricing data and other relevant information for regulatory purposes. The establishment of the International Energy Agency has resulted in an oil market data system by which each member nation's ability to monitor the international oil market is enhanced. This IEA data system is now in place, and provides one of the bases for the emergency sharing program that would be implemented by the Agency in case of another embargo or other major international supply disruption.

In addition, the Department of State and FEA monitor negotiations between producer governments and U.S. companies that are potentially significant in terms of U.S. national and international interests. Obviously a seemingly "international" issue can impact upon our domestic energy situation and vice versa. Thus we have asked for and been given, briefings and updates on the progress of the Saudi Arabia/ARAMCO negotiations and others that are of potential interest to the nation.

At this time we have no reason to believe that the Administration has insufficient knowledge of the course of these negotiations. Moreover we believe that we can get more by asking if necessary. As a practical matter, producers and companies are fully aware of our interest in these matters. So long as the companies continue to cooperate voluntarily in meeting our need for essential information, we do not perceive a need for legislation which attempts to define

for all cases a formal procedure which in practice could become narrowly legalistic and perhaps of no incremental value in clarifying major issues of concern to U.S. policymakers.

In the case of foreign direct investment in U.S. oil companies (as opposed to the Saudi/ARAMCO "participation" or nationalization of assets), Section 26 of the FEA Act, and the Foreign Investment Study Act of 1974 apply. Pursuant to the former, FEA submitted a Report to Congress in December, 1974, and has continued to update its information. Under the latter Act, the Commerce and Treasury Departments conducted comprehensive studies over the past year and one-half on foreign direct and portfolio investment in the United States. The Commerce and Treasury studies were completed this spring and have been submitted to the Congress. The Commerce report concludes, and the FEA agrees, that no tighter controls are needed at this time, and it re-affirms this country's open-door, non-discriminatory policy toward such investments.

Further, since the Krueger Report was issued, a Committee on Foreign Investment in the United States has been established. Membership includes representatives of State, Treasury, Defense and Commerce Departments, the Economic Policy Board, and the Council on International Economic Policy. On energy-related matters, FEA participates in an advisory capacity. The Committee is charged with the responsibility of monitoring the general and national interest impact of proposed direct investments by foreign entities in U.S. corporations. A current case in point is the proposed purchase by the Government of Iran of an equity interest in Occidental Petroleum Company. The FEA is participating in that assessment.

I do not believe that the U.S. Government needs to have greater power legislated at this time. We already have great power over the companies, as I discussed in my written and oral testimony at the June 8 hearings, and the potential for further legislation or legislative proposals is an additional power we have to make our views known and our influence felt.

5. *Creation of a petroleum corporation, fully or partially owned by the Federal Government.*

The disadvantages of such a national institution are discussed at length in the Krueger Report, and the Administration has made its opposition clear on the Federal Oil & Gas Corporation (FOGCO) idea. Briefly, the reasons for our opposition include:

Consumer protection is provided by existing U.S. laws and regulations.

The FOGCO would have legislated advantages over the companies it would compete with and thus would not provide a true measure of industry performance.

Similar companies in other countries are generally less efficient than private companies.

Subsidies, tax breaks and the costs of relative inefficiencies ultimately would be borne by the U.S. citizen.

There would be a substantial loss of tax revenue to the U.S. Government even if the same degree of efficiency were attained.

FOGCO decisions would be subjected to a greater degree of political pressure.

Technical expertise to set up and operate the FOGCO would have to come from existing, private companies.

Much of the rationale for the creation of a FOGCO is fallacious.

Even the more limited idea of a central purchasing authority presents problems. The numerous and complex legal and legislative questions would probably be overwhelming for any such enterprise. But even if they were not, the flexibility (including, but not limited to logistical) of the corporation would be the key to its success or failure. To operate efficiently, the corporation probably would have to attempt to duplicate all the functions of an oil company without having a company's resources for trading, switching, or exchanging crude oils to fit domestic refiners' production slates, and with the likely added burden of political considerations entering into every seemingly commercial transaction.

The politics of various arrangements, and the lack of ability to take crude from one source and exchange it for crude from another source, each and collectively would serve to lock the central purchasing authority into sole source purchasing, and, possibly, into a position where it was unable to resell the crude it purchased. (I am assuming in this discussion, that the corporation's function would not be simply to fill the Strategic Reserve for which the Energy Policy and Conservation Act has provided the FEA with purchasing authority.)

As a national institution, rather than a commercial enterprise (and one of several competing enterprises at that) the public corporation would be subject

to numerous political pressures from both home and abroad. Such national institutions, where they have functioned in a monopoly role as an integral part of the Government (PEMEX or PERTAMINA, for example) have not proven notably effective.

Further, with a U.S. Government entity as a buyer, the flag preference laws would require the use of U.S. tankers (if available) for as much as one-third and possibly one-half of the crude shipments which could raise the price of purchased crude oil by as much as 20 percent. Further, since there are not enough U.S. tankers to ship all U.S. oil imports at present, we are faced with still another problem. Either we build more of the more expensive (to build and to operate) U.S. tankers, which takes years to do, or we must continue to rely on a cheaper mixture of U.S. and foreign tankers. In either case, in the short run we would have less than complete logistic security, while in the long run we have the more direct tradeoff between permanently higher costs and some degree of risk.

On the other hand, as a re-seller, a public corporation would have to operate with safeguards to prevent windfalls from accruing to private buyers. An auction would be an equitable method for disposal of government purchases, but it would have no effect on adequacy of supply or the price of the oil the corporation obtained from OPEC, which I assume, would be the primary reason for establishing a central purchasing agency.

The Krueger Report evaluation of this option states: Whether viewed economically, functionally, or from the standpoint of the overall public interest, there appears to be no convincing basis under today's conditions upon which to recommend the creation or acquisition of a company of which the U.S. Government would be the whole or partial owner to participate in international petroleum transactions.

6. *Coordination of international supply arrangements through an industry-wide association of consumer country companies.*

As is pointed out in the Krueger Report, "U.S. antitrust laws pose a major problem for industry cooperation of this type." In addition to the antitrust problem, there is also the more widespread problem of general public mistrust. There seems little likelihood that the attitude of mistrust or the laws concerning antitrust could be changed enough to facilitate such cooperation in the near future (except for emergencies, as has been done in Sections 251 and 252 of the EPCA). Increasing inter-company coordination outside of emergency conditions does not seem to be an idea whose time has come. This alternative is discussed further in the answer to the second supplemental questions addressed later in this letter.

7. *Bilateral arrangements between the United States and producer governments.*

This option has been exercised, to some extent by the EPCA provision granting authority to the President to buy foreign oil. That authority is specifically linked to discounts, however, for import and resale, the feasibility of which is not clear at this time. There are numerous other questions about the technical purchase authority that are still undergoing evaluation. But overall, the terms of such arrangements in the past (and in various places outside of the United States) seem to be less advantageous to the consumer country than those made by the companies. As Krueger points out, voluntary "special relationships" that enhance the atmosphere of cooperation (such as potential arrangements for closer ties to two of our largest suppliers, Saudi Arabia or Iran) may be more beneficial than specific deals for exchange of goods and services.

8. *Establishment of an international organization to coordinate national petroleum policy with other importing countries.*

This is an option that has been implemented through creation of the International Energy Program (IEP) of the International Energy Agency (IEA). The process had begun during the period the Krueger study was under way, and it was in November, 1974 that the IEA formally came into being. During the June 8 hearings, Deputy Secretary of State Robinson discussed the progress the IEA has made to date in implementing the IEP. Briefly, the Agency has the overall mission of bringing about cooperation and coordination in energy policies among the 19 member nations. Its accomplishments to date include:

Establishment of an integrated emergency program to be implemented in the event of a future embargo or major supply interruption.

Establishment of the oil market data system (mentioned earlier in this letter).

Agreement on target levels of national emergency reserves.

Adoption of a comprehensive program of long-term energy cooperation (including conservation, accelerated development and R. & D.).

Thus, this alternative has been implemented and the U.S. adherence to its IEA commitments has been mandated in the Energy Policy and Conservation Act (EPCA) of 1975.

9. *Establishment of multilateral negotiations between consuming and producing countries.*

In addition to the International Monetary Fund (IMF), the UN, the General Agreeemnt on Trade & Tariffs, and other institutions and arrangements mentioned in the Krueger Report, this option has been considerably advanced through the creation of the Conference on International Economic Cooperation. The CIEC, like the IEA, was discussed by Deputy Secretary Robinson who pointed out that the Energy Commission of the CIEC has been in the process of analyzing supply, demand and price issues and will also continue to seek areas for possible consumer/producer cooperation, such as the International Energy Institute and the International Resources Bank, which have been proposed by Secretary Kissinger, as has the International Industrialization Institute.

The CIEC and the energy-related initiatives now being developed and discussed, offer impressive evidence that consumer-producer cooperation has been a U.S. policy that is being actively pursued. The current agenda difficulties in the CIEC are not expected to result in a rupture of the dialogue.

As I have discussed here, in several cases the Administration has clearly stated its opposition and has spelled out the reasons. In other cases, legislation has been enacted or administrative actions taken that take us a long way toward acceptance and implementation of the policy alternative as it was contained in the Report. In a number of these cases, however, much remains to be done here in the United States to clear away excessive regulation and to agree upon our aims so that we can put into place a truly comprehensive national energy policy. In summary, of the nine alternatives presented in the Krueger Report, all have been and continue to be evaluated by the Administration.

Other questions raised in the hearings which, while not dealing directly with the Krueger Report, were concerned with potential alternatives to advance U.S. interests in the international oil market. I believe that those questions can be formulated as follows:

1. How does the United States insure that the national interest is reflected in negotiations between producing countries and the oil companies?

2. How can we increase the bargaining power of the companies, assuming they are bargaining in our national interest?

For the answers to these questions, parts of my earlier discussion of the Krueger Report (Option #3 for Question #1, and Option #6 for Question #2) options are relevant, but for both questions there is still additional work to be done and evaluations to be made. The following paragraphs address the questions individually:

1. *How does the United States insure that the national interest is reflected in negotiations?*

As I said earlier, both State and FEA ask for and are given briefings on negotiations that seem potentially significant.

There are those who have suggested that the the U.S. Government take steps to become a direct participant in such negotiations. We would consider that to be undesirable unless the Government was to be the actual purchaser (one of the options in the case of the Strategic Reserve Program, for example), or unless the objective is to reach a bilateral umbrella agreement under which subsequent private transactions could be negotiated (as in the talks several months ago with the USSR on a possible oil agreement). Such cases aside, if the U.S. Government is neither buyer nor seller, it does not seem likely that direct particiaption in negotiations would enhance our position. In fact, USG intervention in negotiations could have undesirable effects by injecting the political element into what otherwise would be a business transaction or by making oil the primary focus of bilateral relations with more countries.

In Mr. Krueger's testimony before the Subcommittee, he said he favors a Federal power to "review and approve or disapprove" foreign investment in U.S. energy companies. While I can see his point, I believe that our current flexibility is more valuable tthan the potentially rigid system that would inevitably result from such legislation. We now have, as I have mentioned, the Committee on Foreign Investment in the United States, and we can be reasonably sure that a foreign government would probably not ignore a diplomatic "no" from the Committee. Thus I believe we are generally well protected. Rest assured, however,

that the Administration will continue to monitor such negotiations, and will take the necessary steps including legislative proposals, if and when the proper time comes.

2. *How can we increase the bargaining power of the companies, assuming they are bargaining in the national interest?*

In response to this question, probably the most interesting of the possible ways is that mentioned in the Krueger Report, "coordination of international supply arrangements through an industry-wide association of consumer-country companies." As I mentioned in my brief discussion of this alternative earlier in this letter, existing U.S. and foreign laws (and public opinion as well) pose a major problem here. And there are a number of other potential benefits and risks attached to the implementation of this option.

Such an Association would have as objectives the maximization of company bargaining leverage vis-a-vis producer governments and, at the same time, the expansion of consumer governments' understanding of the limits of such bargaining power. The lack of a united front among the companies was one of the factors that led to the new power balance between the companies and the producer nations. An association of the type suggested by Kreuger would represent an attempt to overcome that weakness, assuming, of course, the willingness on the part of both companies and governments to target demand. This really assumes a general atmosphere of political confrontation rather than commercial leverage. No one has yet prpoosed that such a strategy be pursued to its fullest potential.

According to Krueger: One advantage of the association would be that it could serve as a device to channel and direct market forces and consumer leverage in times of long supply through the relatively low profile and apolitical environment of a large number of individual commercial transactions.

He points out that, for the association to act effectively, there would have to be exemption from antitrust laws for coordination of the "upstream" activities, but that enforcement should be maintained "downstream." This division would be difficult, but necessary if the association were to work effectively. There would be other difficulties, as well, including the willingness of companies to participate; and the apparent inadvisability of requiring company participation but absolute necessity of unanimous participation. All companies must participate, but voluntarily, as must all consumer nations. Otherwise there is competition among the buyers (weakness of the buyers' cartel before OPEC) or confrontation; and probably both.

In all, this option seems inappropriate at a time when we are attempting to attain a greater degree of cooperation between producer and consumer nations.

Once again, I feel that the subject of the June 8 hearings is important and that the whole series of hearings has added to our store of knowledge. I hope that the information in this letter will be of interest and use to you as you continue your energy work.

Sincerely,

FRANK G. ZARB, *Administrator.*

RESPONSE OF HON. CHARLES W. ROBINSON TO ADDITIONAL WRITTEN QUESTIONS POSED BY CHAIRMAN KENNEDY AND COMMENTS ON THE KRUEGER REPORT POLICY OPTIONS

Question 1. In the expectation of a better price than now is dictated to the oil companies, please review in detail the results of direct government (separately the U.S. government and foreign governments) bilateral negotiation for petroleum. In your answer discuss: (*a*) The U.S. negotiations with the Soviets for their oil; (*b*) The proposed oil-for-arms barter talks with Iran; (*c*) Iran's proposal to France, that France receive payments in oil rather than currency for French exports to Iran; (*d*) Talks with Venezuela, Saudi Arabia, and Iran for oil for the proposed U.S. Storage System. In your answer discuss: Will these be direct government-to-government deals, or will a company be an intermediary? Who is to pay for the oil for this "Strategic Petroleum Reserve"? What conclusions can be made from these collective negotiations?

Answer. The results of past attempts by other industrialized countries to negotiate preferential price terms with producer governments do not support the proposition that commercial oil transactions between governments are likely to be at better than prevailing terms. France and Japan explored the government-

to-government alternative when faced with the events of 1973–74 and they have chosen not to continue this as general policy.

U.S. Government agencies have made no direct purchases of oil abroad except for their own uses. We believe that the companies continue to perform the marketing function efficiently. We negotiated with the Soviets from January to March of this year for an oil agreement. Under the terms of the letter of intent signed in Moscow in October, 1975, the agreement would obligate the Soviet Union to offer, and would give the United States the option to buy, a stipulated quantity of crude petroleum and products over a number of years. It would be an umbrella agreement and the detailed terms and conditions of sale would be settled between the Soviet seller and the buyer, the U.S. Government or, at our option, private firms serving the U.S. market. We made clear to the Soviets that landed prices would have to be attractive to U.S. buyers and would have to provide remunerative returns to U.S.-flag vessels eligible to participate in the trade under the U.S.-Soviet Maritime Agreement. Talks were recessed when we were unable to reach agreement on an appropriate formula for shipping rates.

Government-to-government purchase for the Strategic Petroleum Reserve has neither been ruled out nor decided upon. We are prepared to explain the nature of the storage program to friendly foreign governments whether suppliers or not. Certain technical and financial aspects of the Strategic Petroleum Reserve must be worked out before any purchase, domestic or foreign, could be concluded. FEA can provide greater detail on this program.

A sharp reduction in liftings of Iranian oil in late 1975 as a result of depressed demand and relative overpricing caused concern within the Iranian Government about its ability to continue planned economic and military modernization programs. Iran considered a number of ways to increase oil sales. We are unable to comment upon the reported Iranian proposal to France about their bilateral trade.

Iran has approached certain US defense contractors with the request that they assist in finding US purchasers for incremental amounts of Iranian oil on a long-term basis. Funds so generated would be used to pay for a part or all contemplated equipment purchases. It must be emphasized that these would not be government-to-government oil transactions. However, we do not object to the concept of the proposed triangular arrangements, inasmuch as it would not impinge on regular U.S. Government policies or procedures controlling arms sales and Iran is a relatively secure source of oil supply.

Question 2. Is it possible for U.S. international oil companies to have mutual self interest both with OPEC and U.S. interest? Do you see any conflict? . . possible future conflict? Please comment on Senator Church and Ambassador Akins' proposal that U.S. government representatives be placed on the board of directors of international oil companies.

Answer. Since imported oil is essential to the U.S. and the world economy, it is apparent to us that the companies which procure, transport, process and distribute it are performing a vitally important function. It is in our interest that they continue to perform as efficient intermediaries. The established pattern of 100 percent company equity and exclusive offtake rights has been shattered by producers in pursuit of their individual perceptions of their interest. Most now deal with some companies in arms-length sales and with others under investment or technical assistance offtake agreements. There is no OPEC-wide pattern. Every producer sets the price of its crudes around the basic OPEC price. Most set production ceilings and any can embargo destinations for its crudes. Companies which offtake crude do retain the ability to refuse to take oil they consider uncompetitive or to take more oil than they can market. Company commercial interest in procuring an adequate, diversified crude supply at competitive prices is compatible with US national interest. The unprecedented suggestion of placing a US Government member on the Board of Directors of US corporations raises legal, practical and public policy questions that would need to be explored fully. It would not get to the root of our vulnerability vis-a-vis the producers and may reflect a misperception of the ability of the companies, or the government, to overcome this vulnerability through negotiating tactics.

Question 3. How do you reconcile bilateral and global diplomacy as regards to energy matters? Which do you regard as more important in restraining the price of oil?

Answer. The growing dependence of the U.S. and its allies on imported oil made it possible for the small group of producers to take exclusive control of interna-

tional oil prices and production and to exercise this power arbitrarily in 1973–74. Our international energy policy and diplomatic efforts are designed to provide emergency protection against this arbitrary power, to promote restraint in the producers' use of their power and to eliminate our vulnerability by reducing over time the dependence of the U.S. and its allies on imported oil. The International Energy Agency has established workable instruments to minimize the effects of a future supply interruption. It has become a valuable vehicle for coordinating consumer relations with the producers. It is now preparing concrete, long-term cooperation proposals for achieving reduced dependence on imported oil. We have also entered a dialogue with the producers to analyze our respective concerns and to seek areas of cooperation out of a recognition of our mutual interdependence. It is our hope that this dialogue will be continued in accordance with the schedule planned for the Conference on International Economic Cooperation. In addition, we have intensified our bilateral relations with key producers in such areas as trade, finance, economic and military modernization.

We do not rank the elements of our policy hierarchically. It is an integrated policy. At the same time, a successful national energy policy is absolutely crucial to our ability to give effective leadership to international consumer cooperation and to maintain credibility in our dealings with the producers.

Question 4. Describe any headway that has been made since 1974 in constraining OPEC in the momentum of price increases.

Answer. The quadrupling of prices in 1973–74 was followed in late 1974 and 1975 by further increases of lesser percentages but still substantial in cost. In May 1976, for the first time since 1973, the OPEC members continued a price freeze which was due to expire. The momentum of price increases has clearly slowed in 1975–76 for a number of reasons, including market conditions of supply and demand. However, demand for OPEC oil is again rising with economic recovery and we remain highly vulnerable to substantial price increases.

Question 5. In your opinion, do the U.S. oil companies consider the access to crude oil supplies more important than price or vice-versa? In the conclusion that you give with your analysis, do you believe that this is in the best interest of U.S.?

a. Do you believe that European and Japanese companies have the same objectives as U.S. oil companies?

Aswer. U.S. companies seek assured supplies through diversification of sources and, as commercial entities, must seek competitive terms. Considerations of technology, scale, flow and plnaning make it impractical to expect, or to suggest, that the industry make or should make its worldwide lifting decisions on a daily spot basis. Decisions to increase or decrease liftings from a particular producer are highly sensitive to the small differences around the basic OPEC price. The effect of these decisions on liftings by the various companies can cause dramatic swings in the sales of individual producers. In 1975 this was evidenced in increased sales by Iraq, down and up patterns for Libya and Abu Dhabi, decreased sales by Iran and erratic sales by Ecuador. In some of these instances, companies placed their future access to crude in jeopardy over the issue of competitive price.

Non-U.S. oil companies must consider the same commercial factors as U.S. companies. The smaller among them may feel constrained by having few alternative sources, however, and in general other governments are more prone than we to inject the factor of bilateral relations into company decisions. Our observation is that non-U.S. companies are not more price-sensitive than U.S. firms, and perhaps a bit less in some instances.

COMMENTS ON KRUEGER REPORT POLICY OPTIONS

1. Removal of federally-created incentives and disencentives to international petroleum production.

Changes have already been made in the depletion allowances, foreign tax credit and production-sharing payments. Deregulation of domestic natural gas and oil prices has been advocated by the Administration. The Department of State has a limited role in U.S. tax policy and tax legislation although we can comment on the foreign policy impact of specific measures which may be proposed for adoption. We do favor U.S. private investment in foreign oil production. We have proposed an International Resources Bank to stimulate capital flows to oil investments in the non-oil LDC's.

2. Regulation of oil companies as public utilities.

The Report sets out a weak case for this option and we do not favor the suggestion.

3. Petroleum import limitation system.

An effective quota restriction on imports would cause embargo-like dislocations, requiring allocation rationing under a regime of price controls or rationing by price in a decontrolled market. The dislocation and regulation are both undesirable. The Administration did impose a supplementary import fee to discourage imports and does not now propose to reinstate it. Reduction of our dependence on imported oil remains a crucial energy policy objective, however. Agreed national goals of reduced dependence, backed by policy commitments to achieve them, would be highly desirable.

4. Regulation of significant international supply arrangements.

We fully agree with the importance to the U.S. Government of information regarding arrangements between oil companies and producer governments. We regret that the report simply assumes that the information currently available to the Government is insufficient. We welcome the General Accounting Office's inquiry into the relationship between companies and producer because we believe it will illuminate the extent of the Government's information and it will place company contractual arrangements in perspective.

Within the Department of State and in our Embassies in the producing countries we give priority attention to developing information on developments in oil. This attention extends far beyond consultations with companies concerning the main elements of arrangements between them and the producer governments. Our attention extends to the processes whereby the producer government, and the producers as a group, make the critical decisions on price and supply. The Krueger Report is somewhat out of date in suggesting that the basic price and available volume of the world oil supply are any longer determined by company/producer government negotiations. In addition to the information which we obtain, FEA and the International Energy Agency now collect extensive company data on actual costs of oil moving in world trade. Other agencies, including Treasury, Commerce, Interior and CIA, obtain certain data or information helpful to understanding company producer relationships. We believe studies now underway can place this issue in better perspective then was possible in the Krueger Report. In discussing the government review and approval of contracts option, the Report points out such high costs and hazards in an approval that we question its utility as a public policy option.

5. Creation of a Federal Petroleum Corporation.

We do not favor this option, the disadvantages of which are discussed at length in the Krueger Report.

6. Coordination of international suppply through an association of consumer country companies.

Anti-trust laws probably prohibit this, as the Report observes. Moreover, it is unlikely that consuming country companies, or governments, could negotiate advantageous, dependable arrangements on price and supply with the producers at our present levels of import dependence.

7. Bilateral arrangements between the US and producer governments.

We have intensified our bilateral relations with key producers as a part of our overall policy. The Report suggests that such relationships can be very useful in producer/consumer cooperation although they do not involve bilateral oil agreements.

8. Establishment of international consumer country organization.

This option has been implemented through the creation of the International Energy Agency. The IEA has made an impressive beginning. It has established emergency mechanisms to mitigate the impact of another supply interruption. It has conducted useful analyses and evaluations of member country energy problems and programs. It is an important vehicle for coordinating consumer cooperation to reduce dependence on imported energy.

9. Multilateral negotiations between producers and consumers.

This option has been exercised through the Conference on International Economic Cooperation (CIEC) and its Commissions on Energy, Raw Materials, Development and Finance. The Krueger Report perceptively observes that there was a need to begin a process for clipping off manageable pieces of intractable issues which would arise between resources producers and consumers. The range of issues under discussion in the CIEC is even wider than was foreseen in the Report.

RESPONSE OF HON. CHARLES W. ROBINSON TO ADDITIONAL WRITTEN QUESTIONS POSED BY SENATOR PERCY

Question 1. What is OPEC's attitude toward the development of renewable energy sources?

Answer. On the basis of public statements of high-level representatives of OPEC member countries and on the basis of OPEC member actions in the world's investment markets, it is clear that OPEC recognizes that the fossil fuel reserves of its member countries are not inexhaustible and thus cannot be counted on to support industrialization, infrastructure development and overall economic diversification indefinitely. The realization that industrialization leads to higher per capita energy use is pervasive, as is the notion that ultimately the present exporters of fossil fuels will find themselves in the same boat with the importers with respect to the need to draw on other sources of energy for the maintenance of their economic structure.

The sense of urgency with which individual member countries approach this issue varies widely, of course, depending on the fossil fuel reserve position in each individual case. Nonetheless, most OPEC member countries have shown great interest in recent progress in advanced alternative energy technology—including nuclear technology as well as other methods for extracting energy from renewable sources such as the sun and continuous chemical processes. We are now investigating in various forums whether this situation can lead to some form of producer/consumer cooperation in the R&D field.

Question 2. Prospects for the development of solar energy in many lesser developed countries are often excellent because of the abundant sunshine. If solar energy were exploited, it would decrease pressure toward nuclear proliferation. Thus, it would appear desirable for the U.S. to encourage and assist solar energy development to poor countries. Are we doing enough to help less developed countries exploit solar energy?

Answer. Solar energy systems for heating and cooling are approaching commercialization although initial outlays and the need for supplemental backup systems result in high capital costs for such solar energy systems. Moreover, heating and cooling represent only a small part of the developing countries' uses of energy. Far more important are their uses of electrical energy for agriculture, transportation and industry. Unfortunately, generation of electricity from solar energy is still many years from commercialization. Thus, solar energy is not likely to be a significant alternative to nuclear and other conventional sources of electric power through the rest of this century.

We are considering ways of expanding assistance to the developing countries in the energy field, including solar energy. The International Energy Institute proposed by Secretary Kissinger at the Seventh Special Session of the General Assembly of the United Nations could be a vehicle for this purpose. U.S. assistance in solar energy must, of course, be responsive to the developing countries' own desires and specific needs for any such assistance and must be attuned to our ability to lend effective support.

Question 3. Given the potential importance of U.S. technology in helping to solve the world's energy problem, what steps should the U.S. be taking to ensure its technical expertise is used in an appropriate way?

Answer. In addition to transfers of technology, which take place through normal commercial exchange, including flow of information under licensing agreements, we have instituted bilateral and multilateral mechanisms for coordination or promotion of energy technology efforts for mutual benefit.

For example, in the field of nuclear energy technology, our agreements for cooperation contain guarantees between cooperating nations and international organizations, that safeguards required by the agreement will be maintained and that no material or equipment provided by the U.S. under these agreements will be used for nuclear explosives of any kind, and further, that no such material or equipment would be transferred beyond the jurisdiction of the cooperating state except as allowed for in the agreements. In each case, the safeguards are implemented under the auspices of the International Atomic Energy Agency headquarters in Vienna. The U.S. holds such agreements with 29 countries at present.

Non-nuclear weapon states which are members of the IAEA and signatories to the treaty on the non-proliferation of nuclear weapons have committed themselves not to manufacture or otherwise acquire nuclear weapons. Treaty adherents which are nuclear weapons parties agree not to transfer nuclear weapons to any other country. Further, the treaty has a positive obligation for the promo-

tion of nuclear technology for peaceful purposes. In March, Secretary Kissinger, in testifying before the Senate Government Operations Committee, outlined the U.S. policy for consulting with other nuclear exporting countries in an effort to devise a common set of standards concerning safeguards and other controls associated with peaceful nuclear exports. As a result of these consultations, the United States has decided to adopt, as a matter of national policy, certain principles which will govern any further nuclear exports. We have been informed that a number of other countries intend to do the same. These principles include:

Provisions for the application of IAEA safeguards on exports of material, equipment, and technology;

Prohibitions against using assistance for any nuclear explosions, including those for "peaceful purposes";

Requirements for physical security measures on nuclear equipment and materials;

Application of restraint in the transfer of sensitive technologies, such as enrichment and reprocessing;

Encouragement of multinational regional facilities for reprocessing and enrichment; and

Special conditions governing the use or retransfer of sensitive material, equipment, and technology.

Within the International Energy Agency, we have agreed upon a long-term multilateral energy technology program. In addition, information exchanges with the NATO countries are conducted through the NATO Committee on the Challenges of Modern Society. In the next few months, we plan to explore in the Energy Commission of the Conference on International Economic Cooperation the possibilities for greater international cooperation in energy technology among oil producers, industrialized countries and the non-oil developing countries.

Question 4. Should the U.S. adopt a policy of encouraging the exploration and production of oil from non-OPEC LDC's?

Answer. We strongly favor continuation and expansion of the world-wide search for oil and gas deposits. This is obviously to our benefit, as the development of new reserves in non-OPEC countries will tend to put pressure on the existing cartel-imposed world price structure and contribute to the long term supply of additional energy resources. In the context of non-OPEC LDC's, new discoveries or extensions of existing fields would have the additional benefit of reducing pressures on the world financial structure. Non-OPEC LDC's without raw materials or semi-finished products for export have faced particularly severe balance of payments problems which have intensified pressures for international debt forgiveness, for rescheduling of international obligations, and for a heavier proportion of international grant financing in the future.

The United States has proposed the establishment of an International Energy Institute and an International Resource Bank; both of these proposals, which are now under international discussion, would encourage energy resource development in the non-OPEC LDC's. The IRB would stimulate capital flows into oil and gas development within LDC's by providing a form of insurance against political risks which are discouraging such investment.

Question 5. Oil-importing developing countries need as much help in obtaining an adequate food supply, yet there is no effort in sight in the energy field that is on a scale with international aid in the food field. Why is this?

Answer. Although both food and energy problems bear heavily on the developing countries as a group, the nature and causes of the food and energy supply problems and the potential means and sources for short-term mitigation and long-term solutions are different. In particular the position of the United States in global production and supply of food uniquely qualifies us to provide effective leadership to international food assistance efforts. As the largest consumer and importer of oil, the United States is in a different position with respect to meeting the problem which high oil prices imposed by OPEC have created for oil-importing developing countries. The participants in the Conference on International Economic Cooperation will explore appropriate possible assistance in the energy field to these LDCs.

Question 6. How can we start developing a better cooperative international approach so that not only will needless and costly duplication of research be avoided, but also the potential of developing countries to make use of their unexploited oil, solar energy and other sources will cease to be neglected?

Answer. Key elements of our international energy policy are directed toward greater cooperation by the importing countries in meeting the challenge of the

energy problem and assisting energy-deficient developing countries to find and develop their domestic energy resources. We have made an impressive start with the establishment of the International Energy Agency as a vehicle for close cooperation in energy among 19 industrialized countries. The IEA has recently adopted a comprehensive program of long-term energy cooperation through joint efforts in conservation, accelerated production of alternative energy sources and research and development programs. We next intend to translate these commitments into concrete measures and specific programs for rapid implementation.

We are also seeking constructive and mutually beneficial cooperation from the oil producers in assisting the non-oil developing countries. In the Energy Commission of the Conference on International Economic Cooperation (CIEC), we will explore new initiatives and institutions.

For example, our proposed International Energy Institute would primarily be designed to address the energy problems of the non-oil LDC's.

In addition we believe that our proposed International Resources Bank would greatly improve the prospects of these countries in attracting the necessary foreign capital to exploit energy and other natural resources.

Question 7. OPEC has survived the current vast over-capacity and demand drop. Will OPEC survive its next major test in 1978–79 when both the North Slope oil from Alaska and the North Sea oil will be fully in production?

Answer. Assuming a continuation of global economic recovery and growth, incremental North Slope and North Sea production will be absorbed by the respective markets without causing global overcapacity and price pressures in excess of those which obtained in the market for OPEC oil in 1974–75. Thus it is reasonable to assume that since OPEC held together during that period with little difficulty, it will also weather 1978–79.

Question 8. Recently the Organization for Economic Cooperation and Development (OECD) unveiled a code of conduct for multinational corporations and a code of governmental responsibilities to firms. Are the OECD proposals likely to help provide a climate in which multinational corporations can conduct their affairs in an ethical manner?

Answer. Recent revelations in the press suggested the need for international action in this area. The OECD acted positively to face the issue. The members have held a number of meetings to work out the guidelines which, given their broad international participation, have in themselves contributed significantly to establishing a proper climate.

The guidelines themselves specifically provide that multinational enterprises:

Not render and they should not be solicited or expected to render any bribe or other improper benefit, direct or indirect, to any public servant or holder of public office;

Unless legally permissible, not make contributions to candidates for public office or to political organizations; and

Abstain from any improper involvement in local political activities.

These guidelines should work to the advantage of all concerned not only by the support they will provide for ethical courses of action but also by their clarification of what is expected of both host countries and multinational corporations. For the first time, these parties will know where they stand and will be able to measure proposed activities against clear written standards.

Question 9. The Overseas Development Council, and more recently Mr. Jimmy Carter, have suggested that a World Energy Conference should be convened, modeled after the World Food Conference held in Rome in late 1974. Any comments on this idea? If it's a good idea, what steps should we be taking now to implement it?

Answer. Following the initial shocks of the embargo and massive price increases of 1973–74 it became apparent to the Governments of leading oil consuming and producing countries that an international conference was needed to avert confrontation and to attempt to define producer/consumer relationships. Our proposal to convene such a conference to discuss the single subject of energy was strongly and flatly opposed by the producers at the inconclusive preparatory meeting in Paris in April 1975. We were able to launch the Conference on International Economic Cooperation (CIEC) in December 1975 only after we had agreed to expand the agenda of such a meeting to include raw materials, development and related financial issues. The CIEC dialogue is now moving from the analytical to a more action-oriented phase. It should be possible to evaluate the progress of the dialogue and the appropriateness and feasibility of subsequent

international meetings on energy when this phase of the dialogue is concluded at the end of this year.

Question 10. The socialist countries in the world have traditionally been reluctant to take part in international organizations. How important is their cooperation in tackling the world energy problems, and what can be done to increase their participation?

Answer. The socialist countries as a group are neither major exporters nor importers of the oil which moves in overall world trade. Thus, inclusion of socialist countries in the Conference on International Economic Cooperation was not imperative and would not necessarily contribute to the prospects for a constructive and pragmatic dialogue. Nonetheless, socialist countries do participate in UN-related activities, including the Economic Commisson for Europe.

As the overall relationship with individual socialist countries permits, we have explored bilaterally the possibilities for mutually beneficial cooperation in energy supply and development. We have a coal research agreement with Poland and and agreement with the USSR to facilitate cooperation in projects of energy research and development.

Chairman KENNEDY. The subcommittee is adjourned.

[Whereupon, at 12:20 p.m., the subcommittee adjourned, subject to the call of the Chair.]

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APPENDIX

LETTER TO CHAIRMAN KENNEDY, DATED JUNE 17, 1976, FROM C. C. GARVIN, JR., CHAIRMAN OF THE BOARD, THE EXXON CORP., REGARDING THE IMPLICATIONS FOR U.S. POLICY OF THE EVOLVING RELATIONSHIP BETWEEN THE MAJOR U.S. OIL COMPANIES AND OPEC

JUNE 17, 1976.

Hon. EDWARD M. KENNEDY,
Chairman, Subcommittee on Energy, Joint Economic Committee, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: I have followed with interest the hearings of the Energy Subcommittee of the Joint Economic Committee which have explored the implications for U.S. policy of the evolving relationship between the major U.S. oil companies and OPEC.

You raised a number of very thoughtful questions at the opening of the hearings. I wish I knew all the answers. I don't. But from having been closely associated with the issues in question, I have developed some judgments which may be of interest to you. Chief among these is my conviction, which you clearly share, that acceptable policy requires a realistic understanding of the role of the U.S. oil companies in their dealings with OPEC countries.

By way of historical perspective, it is important to recall that until the Fall of 1973, the international oil industry, with strong representation by U.S. companies, carried out, with the knowledge and concurrence of their home governments, negotiations with producing governments on all concessionary matters, including the critical aspects of host "government take". During this period, the consuming world enjoyed abundant supplies of energy at competitive prices.

Unfortunately, the continuous growth in energy demand, and the failure of new oil discoveries in non-OPEC areas to keep pace, increased our dependence on OPEC countries. This occurred despite the fact that the overwhelming share of exploration expenditures had for some time been in non-OPEC areas. In 1973, a turning point was reached. Non-OPEC production was fully utilized and no significant emergency supplies were available to offset an interruption in OPEC oil. Hence, the OPEC countries felt strong enough to impose a cost structure on the industry and to set the market price of oil by fiat. This unilateral price setting was reinforced by a production cutback called by the Arab members of OPEC in response to the October 1973 Arab-Israeli War. The world's demand for energy at the price dictated by OPEC exceeded the availability under the production cutbacks, thereby creating an environment for even further price increase. The progression of price increases since October 1973 is well known. *Over this period, the oil industry has not been a party to any negotiations that have dealt with the basic price of OPEC oil.* The companies have stressed the economic consequences of excessively high prices and have urged moderation, but the OPEC countries have made it abundantly clear that export prices are their sole prerogative and not subject to negotiation with the oil companies. In reflecting on the efficacy of oil company negotiations, and on the respective roles of the companies and governments, this is a point which must be kept in mind. It is relevant to most of the questions you raised.

In your opening remarks, for instance, you expressed concern about the companies' intent in their dealings with OPEC and asked, "Is it to get the best price for the American consumer or is mere access to crude the companies' top priority, regardless of the price imposed by the cartel?" I do not believe that this is an appropriate way of posing the issue, since the basic OPEC price is outside the limits of what the oil industry is able to negotiate. What the companies can do is shop for the lowest available prices within the general range of OPEC crudes. In doing this they are pursuing their competitive self-interest as well as behaving in their

customers' interests. It is, of course, true that the companies are concerned about access to crude oil. They have major downstream investments in transportation, refining and marketing facilities. Billions of dollars have been spent on these installations and thousands of jobs are directly at stake. Not only the companies but the nations they supply must be concerned about continuity of supply.

Another question raised in your opening statement was whether multinational oil companies have played a key role in *allowing* OPEC to maintain international oil prices by setting production quotas. This charge is made frequently, but never, to my knowledge, with any supporting data. Once again, the implication is that OPEC is not strong enough to impose oil prices unilaterally, and, therefore, that the companies must have played a part. The simple truth, however, is that OPEC *is* strong enough to do this because the consuming countries cannot dispense with OPEC oil. There is no practical alternative.

OPEC has been able to raise prices in the last two years, even though spare producing capacity has been as much as 10 million barrels per day at times. They have been able to do so because of their political solidarity and because as a group they have great economic strength. Last year they had a balance of payments surplus of more than $40 billion. Indeed, some important OPEC countries appear to have been more or less indifferent to the amount of oil revenues coming to them from their production, because they were unable to spend all they had already accumulated. It is true that some less-favored countries reduced prices slightly to increase their production and revenues. But this was a matter of achieving more realistic parity with the base OPEC price under the competitive circumstances which existed at the time. It was tolerated by other OPEC members because they recognize the great advantages to them of sustaining the base price. In the last analysis, OPEC strength depends mainly on the actions of one country, Saudi Arabia. Last September, because Saudi Arabia agreed the general OPEC price level was raised 10 per cent. Last month in Bali, OPEC did not raise its general price level because the Saudis were opposed to any general increase. Neither of these actions had anything to do with alleged company prorationing of OPEC production.

Available data simply do not support the prorationing hypothesis. Although the companies cannot change the base OPEC price, they have responded actively to relative price differences of various grades of OPEC crude with the result that lifting patterns have changed frequently and in substantial amounts. From the second quarter of 1974, when OPEC production reached its post-embargo high, through the first quarter of 1976, production for the group was down 12 per cent. But production was up 14 per cent in Iraq, 20 per cent in Libya and 3 per cent in the United Arab Emirates. Even Saudi Arabia saw a less-than-average production decline of 10 per cent. Various other countries saw their production fall more than the group average. Examples are Iran (down 15 per cent) and Algera (down 14 per cent). This is certainly not the result one would expect from a production quota scheme. On the other hand, it is consistent with the workings of a market in which individual companies react to the relative prices of different OPEC grades of crude oil and buy those most attractively priced.

Senator, in the closing remarks of your opening statement, you stressed the need to put aside hostility in our dealings with OPEC and recommended cooperation in its place. I agree with this, as I do with your insistence that we should nevertheless strike the best bargain possible. You rightly ask what should be the role of the U.S. Government in all this and suggest a number of possibilities, ranging from a requirement that long-term contracts receive government approval to a proposal that overseas production be split off from other oil company functions. It seems to me that the realities of today's world make it inevitable that the U.S. Government will play an increasing role in energy matters. But it is also my judgment that circumstances limit what government can usefully do.

As you know, the major oil companies have for many years acted as a buffer between governments in international oil matters. By concentrating on commercial matters, they have deflected political pressures. This is not to say that political developments have had no impact on the international oil industry. Clearly, they have. Still, I believe that the buffer exists and that it is relevant to the suggestion that long-term contracts be approved by the U.S. Government.

When the companies negotiate, they do so primarily as commercial entities. They bargain within the limits of what it is possible for them to achieve. In recent sessions, this has included the terms under which company assets are being nationalized, the volumes of oil which the companies wish to lift to meet their own needs, the various safeguards associated with these liftings and the fees to be received by the companies for management services to the producing

governments. What should be understood is that in this process, the companies are bargaining for amounts which are small relative to the dollars per barrel which consumers would like shaved off OPEC prices. For this commercial give and take, the companies are reasonably well equipped, and it is hard to see how a formal requirement for U.S. Government approval would help. By injecting politics more obviously into the process, the result could well be a hardening of bargaining postures.

It may be said that if this is what the companies are negotiating about, then they are misdirecting their efforts, that in fact they *should* be trying to get major price reductions. But how, in the absence of alternative sources? What could the companies do other than refuse to lift at the cartel-imposed price and who would be most harmed by that—the consuming nations whose economies must have oil to function or the OPEC countries whose oil revenues as a group already exceed current needs? The fact is that for the present, the companies, the consumers and their governments have limited bargaining power. But even if we assume that the consuming governments do have a number of cards to play, surely there are better places to play them than in the commercial negotiations in which the companies are involved.

This is not to say that our government should be kept in the dark about company negotiations. The government must be informed. It is equally important that companies know what their government is thinking and that they reflect this in their deliberations. It may even be that the informing process needs to be more formally established. Ultimately, of course, the question is not one of communication but of what happens because of the communication. I believe that guidance from the government is frequently useful and sometimes essential. I recognize, too, that if reasons are sufficiently compelling, the government will find ways to intervene. But I also believe that government and business have fundamentally different roles to play and that we will suffer from overly mixing them up.

It is sometimes said that greater government involvement is needed because the interests of the oil companies and the interests of our country are not the same. Specifically, it is asserted that the companies have no incentive to resist OPEC price increases because they simply pass these increases on to their customers and at the same time gain by having the value of their reserves in non-OPEC areas rise to the new ceiling. But as has been said above, the general level of OPEC prices is no longer a matter for negotiation—at least not with the oil companies.

That the price of non-OPEC energy has been pulled up by the OPEC price increases is beyond dispute. How much this has benefitted the oil companies and how detrimental it is to the interests of the consuming countries is less clear. Total revenues have increased, but so have investment needs and costs. The result is a return on investment which is far from exceptional. If the U.S. Government had the power to prevent the general rise in energy prices by forcing OPEC prices down, one would have thought that it would already have been exercised. That it has not suggests either that the power is limited or that its application is unacceptable for broader policy reasons.

Questions would remain even if such power could be brought to bear on OPEC. How far would our government wish prices reduced? Far enough to restore the low prices and generous consumption of pre-crisis days? Or not so much as to damage our quest for greater energy independence from OPEC? And how much would that be? As you suggest, Senator, the dilemmas we face do not yield to easy answers.

Where I come out is that, imperfect as they are, the institutional arrangements we now have for attacking these issues are probably about as good as we're going to get. Where the greater problem lies is in our inability to sort out our priorities. We need alternatives, and until we get them it will be an uneven struggle with OPEC. Trite as it by now sounds, therefore, we must conserve on the use of energy while we do everything sensible to develop new sources. This must be the heart of our policy.

It is for this reason that I believe the proponents of divestiture, whether vertical or horizontal, are leading us in the wrong direction. These proposals have been argued extensively elsewhere, and it is clear that men of good will can have different views. But many of us are convinced that divestiture would seriously slow down our progress toward energy development, and even its proponents must acknowledge this as a major risk.

Perhaps at some future time, Senator, we will have a chance to explore these matters in greater depth. I would welcome the opportunity.

Sincerely,

C. C. GARVIN, Jr.,
Chairman of the Board, the Exxon Corp.

International Oil Developments

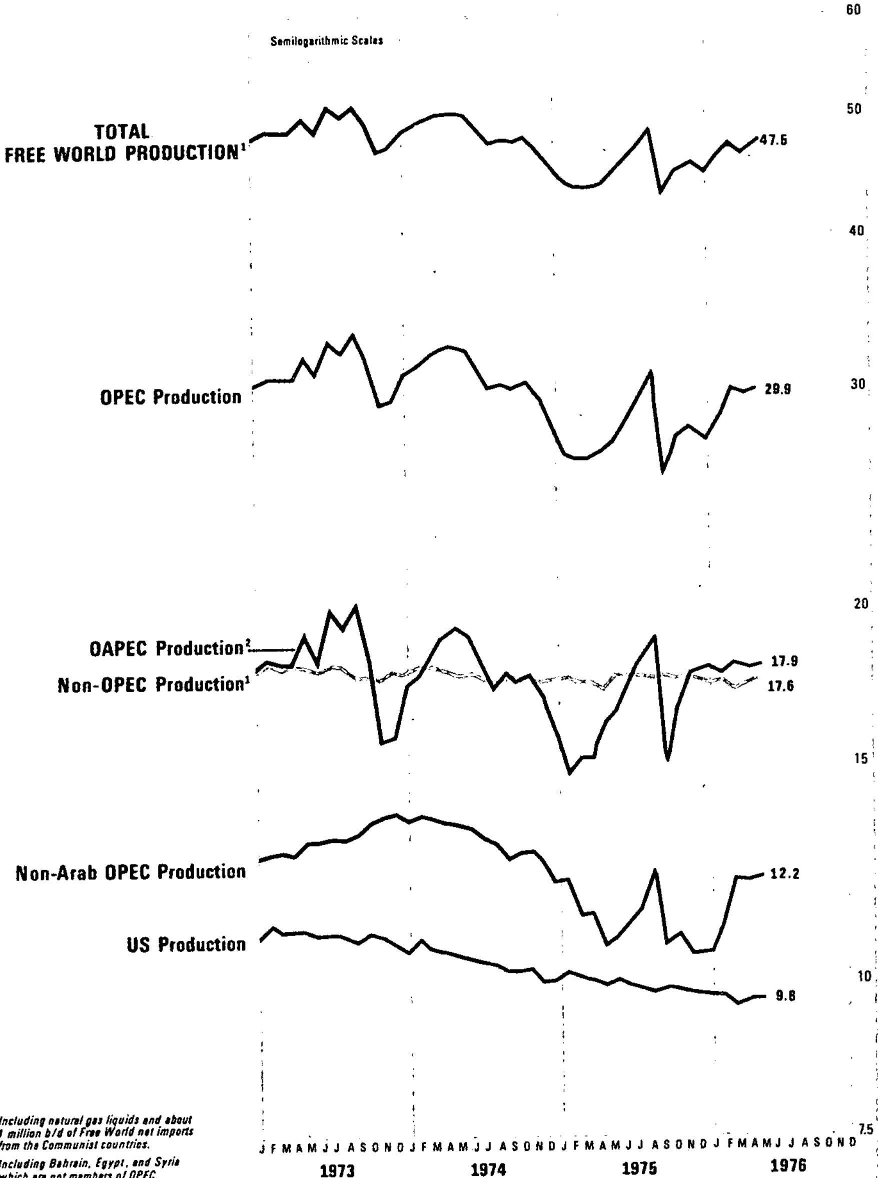
STATISTICAL SURVEY

Prepared by

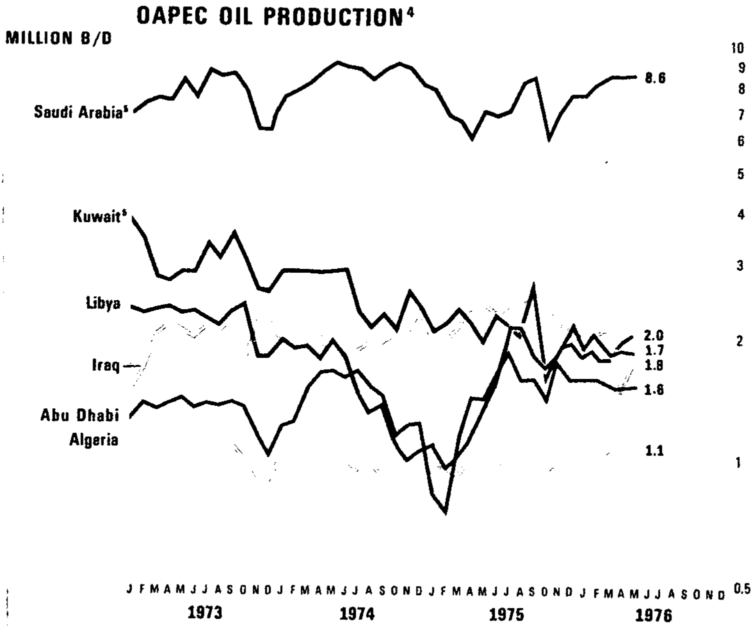
The Office of Economic Research

ER IOD SS 76-013
9 September 1976

FREE WORLD OIL PRODUCTION

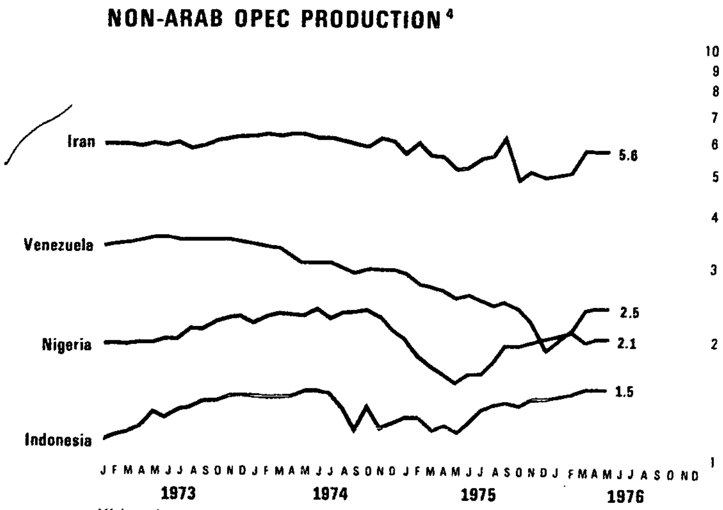


OAPEC OIL PRODUCTION[4]



[4] Major producers.
[5] Including about one-half of Neutral Zone production.

NON-ARAB OPEC PRODUCTION[4]



[4] Major producers.

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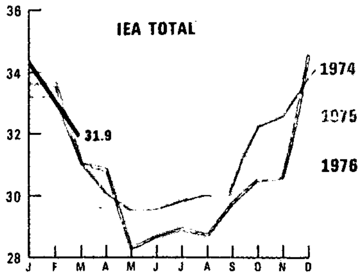
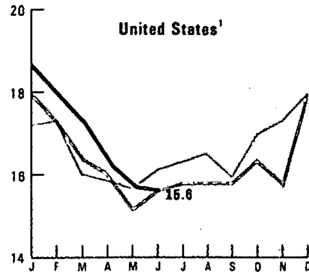
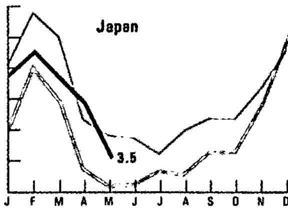
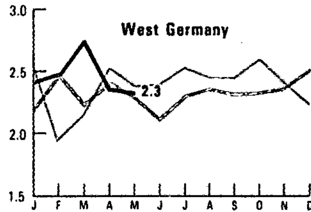
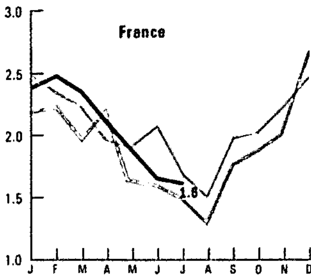
INLAND OIL CONSUMPTION MILLION B/D

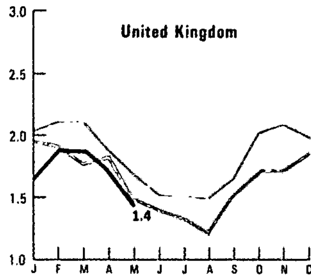


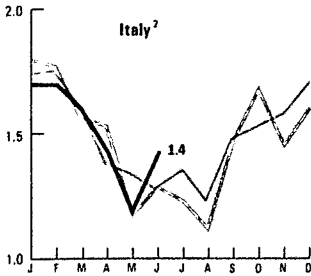


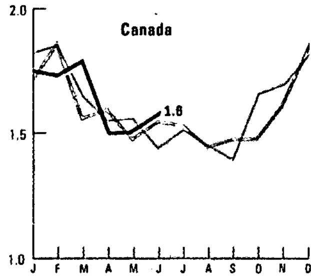












[1] Including bunkers, refinery fuel, and losses.
[2] Principal products only.

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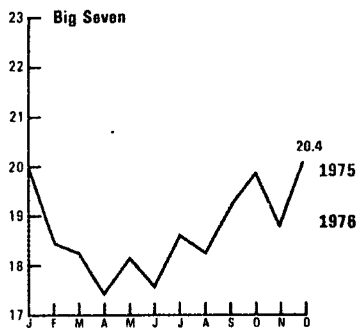
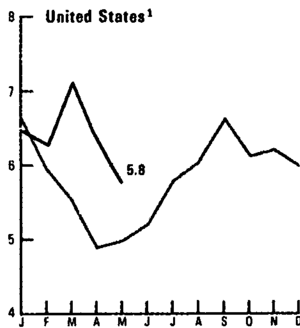
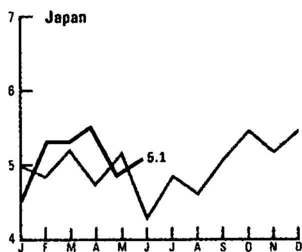
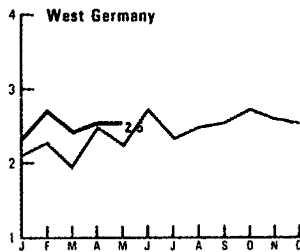
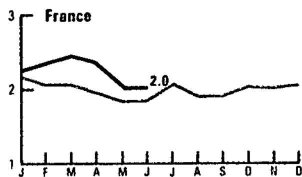
NET OIL IMPORTS MILLION B/D

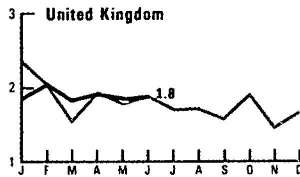


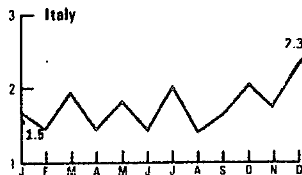


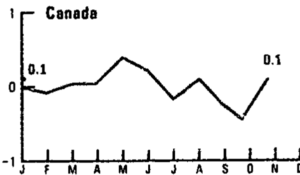












[1] *Bureau of the Mines data through Feb 1976, thereafter API.*

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World Crude Oil Production

Thousand b/d

				1976						
								Preliminary		
	1973	1974	1975	Jan	Feb	Mar	Apr	May	Jun	Jul
World total	55,740	55,885	53,160	52,750	54,180	55,560	54,770	55,670	56,890	....
Free World total	45,845	45,165	41,510	40,880	42,180	43,360	42,700	43,600	44,750	....
Western hemisphere	16,145	15,290	14,149	13,260	13,520	13,720	13,670	14,070	14,010	....
United States[1]	9,210	8,770	8,370	8,210	8,200	8,180	8,080	8,270	8,230	8,170
Venezuela	3,365	2,975	2,350	1,730	2,000	2,290	2,400	2,410	2,370	2,370
Canada[2]	1,800	1,695	1,460	1,260	1,260	1,210	1,160	1,360	1,470	1,300
Mexico[3]	465	580	720	830	830	800	800	800	800	....
Ecuador	210	175	160	190	190	200	200	200	110	110
Other	1,095	1,095	1,080	1,040	1,040	1,040	1,030	1,030	1,030	....
Eastern hemisphere	29,700	29,875	27,370	27,620	28,660	29,640	29,030	29,530	30,740	....
Western Europe	370	380	550	700	740	730	670	680	790	....
Norway	30	35	190	260	280	270	200	170	280	....
United Kingdom	Negl.	Negl.	20	100	120	130	140	180	180	....
Other	340	345	340	340	340	330	330	330	330	....
Middle East	21,210	21,875	19,610	19,150	20,010	21,070	20,240	20,560	1,570	....
Saudi Arabia[4]	7,600	8,480	7,080	7,470	7,940	8,370	8,270	8,450	8,520	8,980
Iran	5,860	6,020	5,350	4,940	5,020	5,740	5,500	5,600	6,100	5,580
Kuwait[4]	3,020	2,545	2,100	1,810	1,980	1,760	1,890	1,650	1,860	1,860
Iraq	2,015	1,975	2,250	1,830	2,010	2,160	1,550	1,800	2,000	1,800
United Arab Emirates	1,530	1,680	1,700	1,910	1,910	1,880	1,880	1,900	1,940	1,940
Abu Dhabi	1,310	1,410	1,400	1,580	1,580	1,520	1,530	1,560	1,570	1,570
Dubai	220	240	260	300	300	310	310	300	330	330
Sharjah	....	30	40	30	30	50	40	40	40	40
Qatar	570	520	440	490	470	500	490	500	490	490
Oman	295	290	340	390	380	360	360	360	360	....
Syria	100	135	160	190	180	180	180	180	180	180
Other	220	230	190	120	120	120	120	120	120	....
Africa	5,900	5,370	4,990	5,360	5,450	5,420	5,630	5,810	5,940	....
Nigeria	2,055	2,255	1,790	1,990	2,070	2,000	2,060	2,070	2,100	2,050
Libya	2,175	1,520	1,520	1,730	1,730	1,740	1,860	1,990	2,010	2,030
Algeria	1,070	960	930	950	960	980	1,000	1,000	1,000	1,000
Gabon	150	200	220	210	210	220	220	220	220	220
Egypt	165	145	250	320	320	320	320	320	320	320
Angola/Cabinda	160	170	140	20	20	20	30	70	150	....
Other	125	120	140	140	140	140	140	140	140	....
Asia-Pacific	2,220	2,250	2,220	2,410	2,460	2,470	2,490	2,480	2,440	....
Australia	370	390	410	470	460	360	420	430	420	....
Indonesia	1,340	1,375	1,310	1,420	1,460	1,520	1,530	1,510	1,480	1,500
Malaysia-Brunei	320	290	300	300	320	320	320	320	320	....
Other	190	195	200	220	220	220	220	220	220	....
Communist countries total	9,895	10,720	11,650	11,870	12,000	12,200	12,070	12,070	12,140	....
USSR[5]	8,420	9,020	9,630	9,850	9,980	10,180	10,050	10,050	10,120	....
China	1,090	1,310	1,620	1,620	1,620	1,620	1,620	1,620	1,620	....
Romania	275	280	290	290	290	290	290	290	29....0	....
Other	110	110	110	110	110	110	110	110	110	....

[1] Excluding an estimated 1.6 million b/d of natural gas liquids in July.
[2] Excluding an estimated 310,000 b/d of natural gas liquids in July.
[3] Excluding an estimated 100,000 b/d of natural gas liquids in July.
[4] Including about one-half of Neutral Zone production, which amounted to about 460,000 b/d in July.
[5] Excluding an estimated 270,000 b/d of natural gas liquids in July.

World Natural Gas Liquids (NGL) Production

Thousand b/d

	1973	1974	1975	1976[1]
World Total	**2,735**	**2,815**	**2,815**	**2,965**
Free World Total	**2,525**	**2,585**	**2,575**	**2,695**
Western Hemisphere	2,230	2,185	2,170	2,100
United States	1,740	1,690	1,635	1,560
Venezuela	90	95	115	100
Canada	320	310	310	310
Mexico	50	60	80	100
Other	30	30	30	30
Eastern Hemishere	295	400	405	595
Western Europe	20	20	30	90
Norway	....	....	5	40
United Kingdom	....	....	5	20
Other	20	20	20	30
Middle East	185	260	255	310
Saudi Arabia	90	150	140	190
Iran	35	35	35	50
Kuwait	60	70	70	60
Qatar	....	5	10	10
Africa	60	90	90	140
Libya	35	40	40	40
Algeria	25	50	50	100
Asia-Pacific	30	30	30	55
Australia	30	30	30	35
Indonesia	....	....	....	20
Communist Countries Total	**210**	**230**	**240**	**270**
USSR	210	230	240	270
China	N.A.	N.A.	N.A.	N.A.

[1] Estimated.

OAPEC[1] and OPEC[2] Countries Crude Oil Production

				1976						
							Preliminary			
	1973	1974	1975	Jan	Feb	Mar	Apr	May	Jun	Jul
Total OAPEC (thousand b/d)	18,095	17,755	16,190	16,430	17,230	17,590	17,150	17,510	18,010	18,290
% change from Sep 1973[3]	....	−11	−19	−18	−14	−12	−14	−13	−10	−9
% change from May 1974[4]	....	....	−14	−13	−9	−7	−9	−7	−5	−3
Total OPEC (thousand b/d)	30,960	30,680	27,200	26,670	27,950	29,360	28,850	29,300	30,200	29,930
% change from Sep 1973[3]	....	−7	−17	−19	−15	−11	−12	−11	−8	−9
% change from May 1974[4]	....	....	−15	−17	−13	−8	−10	−9	−6	−7

[1] The members of the Organization of Arab Petroleum Exporting Countries are Abu Dhabi, Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Qatar, Saudi Arabia, and Syria.
[2] The membership of the Organization of Petroleum Exporting Countries consists of OAPEC members (excluding Bahrain, Egypt, and Syria), plus Dubai, Ecuador, Gabon, Indonesia, Iran, Nigeria, Sharjah, and Venezuela.
[3] In Sep 1973, the pre-crisis level of output, OAPEC countries produced 20,038 b/d and OPEC countries 32,956 b/d.
[4] In May 1974, the post-crisis peak for output, OAPEC countries produced 18,920 b/d and OPEC countries 32,050 b/d.

OAPEC and OPEC Countries: Crude Oil Production Capacity

Thousand b/d

	Estimated Productive Capacity	Underutilization of Productive Capacity	
		Jun	Jul
Saudi Arabia[1]	11,500	2,980	2,520
Kuwait[1]	3,500	1,640	1,640
Libya	2,500	490	470
Iraq	3,000	1,000	1,200
Abu Dhabi	2,000	430	430
Algeria	1,000	....	....
Qatar	700	210	210
Egypt	350	30	30
Syria	200	20	20
Bahrain	60	....	....
Total OAPEC	24,810	6,800	6,520
Iran	6,500	400	920
Venezuela	2,700	330	330
Nigeria	2,500	400	450
Indonesia	1,700	220	200
Dubai	330	....	....
Gabon	250	30	30
Ecuador	200	90	90
Sharjah	50	10	10
Total OPEC[2]	38,430	8,230	8,500

[1] Including about one-half of Neutral Zone capacity production.
[2] OAPEC members (excluding Bahrain, Egypt, and Syria), plus the other countries shown.

Estimated Proved and Probable Petroleum Reserves

Area and Country	Crude Oil Billion Barrels	Natural Gas Trillion Cubic Meters
World Total	678	77.0[1]
Free World Total	613	53.0
Western Hemisphere	91	12.0
United States[2]	40	6.8
Mexico	20	0.9
Venezuela	14	1.2
Canada[2]	9	2.0
Ecuador	2	0.2
Argentina	2	0.3
Other	4	0.6
Eastern Hemisphere	587	65.0
Middle East	406	27.0
Saudi Arabia	170	3.0
Kuwait	71	1.0
Iran[3]	64	20.3
Iraq	35	1.0
United Arab Emirates	31	1.0
Neutral Zone	16	0.2
Qatar	6	0.2
Oman	6	0.1
Syria	2	0.1
Other	5	0.1
Africa	65	6.0
Libya	26	0.8
Nigeria	20	1.4
Algeria	7	3.6
Egypt	5	0.1
Congo Republic	2	Negl.
Gabon	2	Negl.
Angola-Cabinda	1	Negl.
Tunisia	1	Negl.
Other	1	0.1
Western Europe	29	5.0
United Kingdom	19	1.3
Norway	7	0.7
Netherlands	....	2.0
Other	3	1.0
Asia-Pacific	22	3.0
Indonesia	15	0.5
Brunei	2	0.3
Malaysia	2	0.5
Australia	2	1.0
India	1	0.1
Pakistan	....	0.6
Communist World	65	24.0
USSR	40	23.0
China	20	0.7
Other	5	0.3

[1] Equivalent to 483.8 billion barrels of oil.
[2] Including Arctic gas deposits and natural gas liquids.
[3] Including recent discoveries.

Estimated Imports of Crude Oil and Refined Products, Traced to the Original Crude Source
1975

Thousand b/d and Percent of Imports

	Total Arab and Non-Arab	Arab Countries							
		Total	Saudi Arabia	Kuwait	Libya	Iraq	United Arab Emirates	Algeria	Other
United States	6,030	1,770	850	30	330	10	170	290	90
Percent	100	29.4	14.1	0.5	5.5	0.2	2.8	4.8	1.5
Japan	5,010	2,540	1,460	480	60	90	410	10	30
Percent	100	50.7	29.1	9.6	1.2	1.8	8.2	0.2	0.6
Canada	890	300	190	30	10	30	40	....	....
Percent	100	33.7	21.3	3.4	1.1	3.4	4.5	....	....
Western Europe[1]	12,080	7,520	3,340	790	740	920	760	500	470
Percent	100	62.3	27.6	6.5	6.1	7.6	6.3	4.1	3.9
United Kingdom[1]	1,830	990	450	220	60	50	80	30	100
Percent	100	54.1	24.6	12.0	3.3	2.7	4.4	1.6	5.5
West Germany[1]	1,970	1,170	380	60	300	30	160	210	30
Percent	100	59.4	19.3	3.0	15.2	1.5	8.1	10.7	1.5
Italy[1]	1,990	1,420	520	90	190	350	70	60	140
Percent	100	71.4	26.1	4.5	9.5	17.6	3.5	3.0	7.0
France[1]	2,190	1,550	670	130	40	240	250	120	100
Percent	100	70.8	30.6	5.9	1.8	11.0	11.4	5.5	4.6
Netherlands[1, 2]	1,200	580	260	130	10	40	110	10	20
Percent	100	48.3	21.7	10.8	0.8	3.3	9.2	0.8	1.7
Belgium-Luxembourg[1]	590	300	240	60	....	....	....	....	....
Percent	100	50.8	40.7	10.2	....	....	....	....	....
Spain[1, 3]	820	580	410	10	50	100	....	10	....
Percent	100	70.7	50.0	1.2	6.1	12.2	....	1.2	....
Other[1]	1,490	930	410	90	90	110	90	60	80
Percent	100	62.4	27.5	6.0	6.0	7.4	6.0	4.0	5.4

	Non-Arab Countries							
	Total	Iran	Venezuela	Indonesia	Canada	Nigeria	Ecuador	Other
United States	4,260	500	1,040	450	800	820	70	580
Percent	70.6	8.3	17.2	7.5	13.3	13.6	1.2	9.6
Japan	2,470	1,180	10	560	....	60	....	660
Percent	49.3	23.6	0.2	11.2	....	1.2	....	13.2
Canada	590	200	280	....	....	20	....	90
Percent	66.3	22.5	31.5	....	....	2.2	....	10.1
Western Europe[1]	4,560	1,950	250	....	....	740	....	1,620
Percent	37.7	16.1	2.1	....	....	6.1	....	13.4
United Kingdom[1]	840	360	70	....	....	120	....	290
Percent	45.9	19.7	3.8	....	....	6.6	....	15.8
West Germany[1]	800	290	50	....	....	200	....	260
Percent	40.6	14.7	2.5	....	....	10.2	....	13.2
Italy[1]	570	270	40	....	....	10	....	250
Percent	28.6	13.6	2.0	....	....	0.5	....	12.6
France[1]	640	270	40	....	....	180	....	150
Percent	29.2	12.3	1.8	....	....	8.2	....	6.8
Netherlands[1, 2]	620	350	10	....	....	140	....	120
Percent	51.7	29.2	0.8	....	....	11.7	....	10.0
Belgium-Luxembourg[1]	290	110	....	....	....	....	....	180
Percent	49.2	18.6	....	....	....	....	....	30.5
Spain[1, 3]	240	70	20	....	....	....	....	150
Percent	29.3	8.5	2.4	....	....	....	....	18.3
Other[1]	560	230	20	....	....	90	....	220
Percent	37.6	15.4	1.3	....	....	6.0	....	14.8

[1] Excluding intra European oil product trade.
[2] Excluding oil transshipped to other European countries.
[3] Including data for the Canary Islands.

Selected Developed Countries: Crude Oil Imports, by Source

	Thousand b/d												Percent of Total	
	Sep 1973 (Pre-Crisis Level)	1974				1975				1976				
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	Jan	Feb	Mar	Sep 1973	Mar 1976
United States														
Algeria	124	4	232	249	232	255	293	276	233	332	350	323	3.6	6.8
Egypt	....	....	17	12	6	....	....	6	12	31	34	19	....	0.4
Iraq	17	....	....	....	....	....	2	5	....	....	....	....	0.5	....
Kuwait	44	....	2	12	5	6	9	1	1	....	....	....	1.3	....
Libya	153	7	4	....	....	92	166	357	273	433	326	372	4.4	7.9
Qatar	41	....	4	23	41	28	2	30	13	13	11	12	1.2	0.3
Saudi Arabia	599	45	418	551	728	752	405	672	975	1,110	1,077	1,145	17.3	24.2
United Arab Emirates[1]	88	3	86	145	40	88	91	194	92	119	118	159	4.5	3.4
Total OAPEC	1,066	59	763	992	1,052	1,221	968	1,541	1,599	2,038	1,916	2,030	30.7	42.8
Gabon	....	....	19	35	39	40	32	23	13	18	46	27	....	0.6
Ecuador	33	55	65	18	29	47	57	62	62	50	12	42	0.9	0.9
Indonesia	249	247	293	284	309	291	372	453	396	478	465	552	7.2	11.7
Iran	205	394	574	492	390	287	277	232	319	386	241	286	5.9	6.0
Nigeria	409	458	708	829	787	828	620	764	766	773	821	897	11.8	18.9
Venezuela	405	253	255	387	378	316	461	439	363	133	111	152	11.7	3.2
Total OPEC[2]	2,367	1,466	2,660	3,025	2,978	3,030	2,787	3,508	3,506	3,845	3,578	3,967	68.2	83.7
Canada	998	837	837	737	754	611	498	644	647	423	345	382	29.8	8.1
Other	106	65	188	164	138	196	303	329	331	295	251	370	3.0	7.8
Total	3,471	2,368	3,702	3,938	3,876	3,837	3,588	4,487	4,496	4,594	4,208	4,738	100.0	100.0

	Thousand b/d											Percent of Total	
	Sep 1973 (Pre-Crisis Level)	1974				1975				1976			
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	Jan	Feb	Sep 1973	Feb 1976
Canada													
Algeria	....	5	39	3	....	....	....	....	1	25	5	....	0.7
Iraq	23	....	....	6	32	17	40	32	33	61	20	2.4	2.8
Kuwait	....	31	18	34	17	52	31	19	15	....	....	....	....
Libya	56	11	8	13	4	....	....	15	20	68	40	6.0	5.6
Qatar	....	....	....	....	....	7	....	....	....	....	....	....	....
Saudi Arabia	82	48	71	85	160	235	194	167	66	128	116	8.7	16.2
United Arab Emirates[1]	49	3	8	36	48	61	49	31	45	31	17	5.2	2.4
Total OAPEC	210	98	144	177	261	372	314	264	180	313	198	22.3	27.6
Ecuador	13	14	4	7	....	....	....	....	4	....	....	1.4	....
Gabon	....	....	....	....	....	....	....	....	11	....	....	....	....
Iran	149	177	312	156	153	169	253	224	160	234	186	15.9	25.9
Nigeria	39	33	18	Negl.	6	16	5	20	28	89	40	4.1	5.6
Venezuela	485	416	308	392	287	292	272	220	276	385	187	51.6	26.0
Total OPEC[2]	896	738	786	732	707	848	844	728	659	1,021	611	95.3	85.1
Other	44	100	43	37	62	91	65	53	10	120	107	4.7	14.9
Total	940	838	829	769	769	939	909	781	669	1,141	718	100.0	100.0

Selected Developed Countries: Crude Oil Imports, by Source
(Continued)

Thousand b/d

	Sep 1973 (Pre-Crisis Level)	1974				1975				1976			Percent of Total	
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	Jul	Sep 1973	Jul 1976
Japan														
Algeria	....	5	5	4	5	4	....	12	6	6	....	....	....	....
Egypt	....	....	4	....	4	....	....	....	....	....	Negl.	....	....	....
Iraq	....	64	34	14	50	82	72	99	116	105	119	113	....	2.3
Kuwait	488	487	553	438	439	409	433	403	419	368	328	375	10.0	7.8
Libya	31	34	91	99	55	42	49	77	68	13	51	48	0.6	1.0
Qatar	....	6	19	....	....	....	13	....	....	....	....	....	....	....
Saudi Arabia	1,148	1,306	1,334	1,327	1,250	1,247	1,327	1,365	1,479	1,484	1,578	1,843	23.5	38.3
United Arab Emirates[1]	514	550	574	492	516	392	310	372	558	546	485	597	10.5	12.4
Other[3]	....	3	....	....	....	....	....	....	....	....	....	....	....	....
Total OAPEC	2,181	2,455	2,614	2,374	2,319	2,176	2,204	2,328	2,646	2,522	2,561	2,976	44.7	61.8
Indonesia	638	732	694	651	607	611	489	484	490	552	575	584	13.1	12.1
Iran	1,544	1,186	1,160	1,207	1,335	1,393	1,128	1,011	1,060	802	986	712	31.9	14.8
Nigeria	101	48	82	93	126	50	113	64	56	53	6	....	2.1	....
Venezuela	7	12	11	6	6	4	4	6	6	7	6	7	0.1	0.1
Total OPEC[2]	4,481	4,430	4,557	4,331	4,389	4,234	3,938	3,893	4,258	3,936	4,134	4,279	91.9	88.8
Other	397	347	368	347	410	388	408	491	551	448	420	539	8.1	11.2
Total	4,878	4,780	4,929	4,678	4,803	4,622	4,346	4,384	4,809	4,384	4,554	4,818	100.0	100.0

Thousand b/d

	Sep 1973 (Pre-Crisis Level)	1974				1975				1976				Percent of Total	
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	Apr	May	Jun	Sep 1973	Jun 1976
United Kingdom															
Abu Dhabi	28	83	107	136	56	59	59	43	33	45	21	....	38	1.5	2.1
Algeria	46	22	6	8	8	13	23	29	49	28	30	....	13	2.4	0.7
Egypt	....	6	14	....	....	20	24	14	13	11	....	....	....	....	....
Iraq	67	78	36	46	95	56	39	45	60	59	32	74	72	3.5	4.0
Kuwait	293	427	386	285	291	291	194	194	196	195	176	245	213	15.3	11.7
Libya	98	199	209	163	130	87	59	39	32	36	21	24	57	5.1	3.1
Qatar	73	108	100	74	117	55	106	79	60	123	75	238	53	3.8	2.9
Saudi Arabia	530	874	828	603	584	518	524	403	360	416	425	271	357	27.6	19.7
Other[3]	....	....	....	....	....	7	....	76	68	93	36	3	7	....	0.4
Total OAPEC	1,135	1,797	1,686	1,315	1,281	1,106	1,028	922	871	1,006	816	855	810	59.2	44.7
Dubai	48	31	25	23	24	33	45	16	25	30	86	26	98	2.5	5.4
Iran	317	165	206	348	446	384	329	400	308	357	445	368	441	16.5	24.3
Nigeria	188	230	141	117	155	127	100	107	147	101	144	71	92	9.8	5.1
Venezuela	66	95	73	52	66	44	77	70	64	40	48	38	24	3.4	1.3
Total OPEC[2]	1,754	2,312	2,117	1,855	1,972	1,667	1,555	1,425	1,334	1,430	1,503	1,355	1,458	91.5	80.4
Other	163	190	324	251	274	215	278	223	274	345	399	340	349	8.5	19.2
Total	1,917	2,508	2,455	2,106	2,246	1,909	1,857	1,738	1,669	1,879	1,938	1,698	1,814	100.0	100.0

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Selected Developed Countries: Crude Oil Imports, by Source (Continued)

	Thousand b/d												Percent of Total	
	Sep 1973 (Pre-Crisis Level)	1974				1975				1976				
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	Apr	May	Sep 1973	May 1976
West Germany														
Abu Dhabi	150	156	130	107	92	116	69	104	120	123	112	105	6.5	5.7
Algeria	239	226	184	172	221	188	219	176	234	196	267	201	10.4	11.0
Iraq	43	101	105	40	47	44	33	23	13	41	10	21	1.9	1.1
Kuwait	102	56	79	125	67	49	69	53	48	20	41	....	4.4	....
Libya	418	367	333	382	197	233	277	327	345	383	393	405	18.2	22.1
Qatar	18	27	10	18	27	21	29	21	30	20	40	34	0.8	1.9
Saudi Arabia	710	398	538	576	545	382	416	327	359	334	296	304	30.9	16.6
Other[3]	26	13	27	27	10	10	20	33	21	7	51	24	1.1	1.3
Total OAPEC	1,706	1,344	1,406	1,447	1,206	1,043	1,132	1,064	1,170	1,124	1,210	1,094	74.3	59.8
Dubai	12	34	50	51	55	64	51	49	54	....	....	....	0.5	....
Gabon	32	12	23	6	36	20	14	25	24	14	28	21	1.4	1.1
Iran	248	266	243	258	294	182	270	311	370	302	267	378	10.8	20.7
Nigeria	168	224	208	186	345	173	215	174	246	194	182	174	7.3	9.5
Venezuela	42	28	37	59	30	32	47	53	40	21	38	25	1.8	1.4
Total OPEC[2]	2,182	1,895	1,940	1,980	1,956	1,504	1,709	1,643	1,883	1,648	1,674	1,668	95.0	91.1
Other	89	66	98	87	101	69	90	99	115	81	98	138	3.9	7.5
Total	2,297	1,974	2,065	2,094	2,067	1,583	1,819	1,775	2,019	1,736	1,823	1,830	100.0	100.0

	Thousand b/d												Percent of Total	
	Sep 1973 (Pre-Crisis Level)	1974				1975					1976			
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	Apr	May	Jun	Sep 1973	Jun 1976
France															
Abu Dhabi	249	267	330	256	219	105	202	244	266	276	252	118	169	9.0	8.3
Algeria	227	222	220	151	134	78	96	167	138	103	103	84	93	8.2	4.6
Egypt	1	....	....	....	....	....	....	12	3	....	27	13	13	Negl.	0.6
Iraq	375	335	326	314	346	267	236	233	233	237	293	282	334	13.6	16 4
Kuwait	316	257	258	250	220	156	203	124	91	53	87	171	56	11.4	2.7
Libya	131	80	116	47	52	51	39	55	30	67	64	55	67	4.7	3.3
Qatar	69	78	98	62	42	69	22	46	52	67	85	7	60	2.5	2.9
Saudi Arabia	623	833	866	793	875	713	626	647	717	835	926	845	750	22.5	36.8
Other[3]	12	....	5	11	29	15	41	59	88	76	49	63	56	0.4	2.7
Total OAPEC	2,003	2,072	2,219	1,884	1,917	1,454	1,465	1,587	1,618	1,714	1,886	1,638	1,598	72.5	78.4
Dubai	27	26	41	26	51	30	32	41	68	58	40	....	13	1.0	0.6
Gabon	33	64	49	42	19	32	15	24	37	25	36	18	61	1.2	3.0
Iran	216	103	67	225	300	328	185	240	318	300	261	293	142	7.8	7.0
Nigeria	253	308	204	168	152	205	197	162	164	165	176	125	169	9.2	8.3
Venezuela	36	23	32	31	26	19	18	10	12	17	7	14	17	1.3	0.8
Total OPEC[2]	2,555	2,596	2,607	2,365	2,436	2,053	1,871	1,993	2,217	2,203	2,330	2,012	1,931	92.4	94.7
Other	196	108	59	87	115	62	82	90	71	128	94	100	39	7.1	1.9
Total	2,764[4]	2,704	2,671	2,463	2,580	2,130	1,994	2,154	2,288	2,407	2,500	2,188	2,039	100.0	100.0

Selected Developed Countries: Crude Oil Imports, by Source
(Continued)

	Thousand b/d												Percent of Total	
	Sep 1973 (Pre-Crisis Level)	1974				1975						1976		
		1st Qtr	2d Qtr	3d Qtr	4th Qtr	1st Qtr	2d Qtr	3d Qtr	Oct	Nov	Dec	Jan	Sep 1973	Jan 1976
Italy														
Iraq	493	276	342	233	223	329	284	403	546	315	643	214	15.5	12.6
Kuwait	250	....	....	....	....	....	....	....	....	....	....	....	7.9	....
Libya	676	633	567	447	311	165	178	282	441	342	393	266	21.3	15.7
Saudi Arabia	992	571	654	1,065	920	628	483	438	635	688	565	455	31.1	26.9
Total OAPEC	**2,411**	**1,480**	**1,563**	**1,745**	**1,453**	**1,122**	**945**	**1,123**	**1,622**	**1,345**	**1,601**	**935**	**75.8**	**55.2**
Iran	333	300	264	265	330	239	295	257	259	160	318	295	10.5	17.4
Total OPEC[2]	**2,744**	**1,780**	**1,827**	**2,010**	**1,783**	**1,361**	**1,240**	**1,380**	**1,881**	**1,505**	**1,919**	**1,230**	**86.3**	**72.7**
Other[5]	437	423	545	536	488	397	380	556	449	441	501	463	13.7	27.3
Total	**3,181**	**2,203**	**2,372**	**2,546**	**2,272**	**1,758**	**1,620**	**1,936**	**2,330**	**1,946**	**2,420**	**1,693**	**100.0**	**100.0**

[1] Including oil imports from Abu Dhabi and possibly from Dubai and Sharjah, which are not members of OAPEC.
[2] Consisting of OAPEC members (excluding Bahrain, Egypt, and Syria) plus the other countries shown.
[3] Including, when applicable, Bahrain and Syria.
[4] Estimated.
[5] Including data that cannot be distributed by area of origin.

Selected Developed Countries: Trends in Oil Trade

Thousand b/d

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
United States[1]													
1973													
Crude imports	2,732	2,873	3,162	3,049	3,215	3,220	3,501	3,593	3,471	3,740	3,452	2,891	3,244
Product imports	3,079	3,501	3,413	2,551	2,603	2,659	2,671	2,913	2,903	2,785	3,412	3,055	3,012
Total imports	5,811	6,374	6,575	5,600	5,818	5,879	6,172	6,506	6,374	6,525	6,864	5,946	6,256
Exports	210	260	224	275	237	215	240	217	242	221	202	227	231
Net imports	5,601	6,114	6,351	5,325	5,581	5,664	5,932	6,289	6,132	6,304	6,662	5,719	6,025
1974													
Crude imports	2,382	2,248	2,462	3,267	3,908	3,925	4,091	3,924	3,797	3,810	3,958	3,869	3,477
Product imports	2,973	2,973	2,753	2,703	2,580	2,493	2,397	2,434	2,225	2,320	2,704	2,853	2,611
Total imports	5,355	5,221	5,215	5,970	6,488	6,418	6,488	6,358	6,022	6,130	6,662	6,722	6,088
Exports	207	203	196	243	247	238	253	247	171	221	186	231	220
Net imports	5,148	5,018	5,019	5,727	6,241	6,180	6,235	6,111	5,851	5,909	6,476	6,491	5,868
1975													
Crude imports	4,029	3,828	3,656	3,378	3,486	3,905	4,192	4,581	4,689	4,389	4,628	4,476	4,105
Product imports	2,811	2,348	2,074	1,692	1,690	1,503	1,789	1,678	2,116	1,907	1,739	1,751	1,920
Total imports	6,840	6,176	5,730	5,070	5,176	5,408	5,981	6,259	6,805	6,296	6,367	6,227	6,025
Exports	228	249	213	190	202	224	186	217	205	187	166	262	209
Net imports	6,612	5,927	5,517	4,880	4,974	5,184	5,795	6,042	6,600	6,109	6,201	5,965	5,816
1976													
Crude imports	4,594	4,208	4,738	5,045	4,771	....	....	....	....	....	....	....	....
Product imports	2,016	2,225	1,885	1,554	1,256	....	....	....	....	....	....	....	....
Total imports	6,610	6,433	6,623	6,599	6,027	....	....	....	....	....	....	....	....
Exports	156	241	185	200[2]	200[2]	....	....	....	....	....	....	....	....
Net imports	6,454	6,192	6,438	6,399	5,827	....	....	....	....	....	....	....	....
Canada													
1973													
Crude imports	945	975	932	772	930	741	1,058	937	940	799	934	802	897
Product imports	163	93	55	37	119	121	122	153	105	132	140	149	130
Total imports	1,108	1,068	987	809	1,049	862	1,180	1,090	1,045	931	1,074	951	1,027
Exports	1,357	1,500	1,364	1,472	1,495	1,446	1,162	1,298	1,300	1,363	1,357	1,273	1,364
Net imports	−249	−432	−377	−663	−446	−584	18	−208	−255	−432	−283	−322	−337
1974													
Crude imports	822	988	717	718	971	763	816	817	672	787	798	721	820
Product imports	96	44	142	33	114	125	89	104	58	75	87	74	83
Total imports	918	1,032	859	751	1,085	888	905	921	730	862	885	795	903
Exports	1,180	1,402	1,056	1,266	1,270	1,220	956	978	1,026	988	1,110	981	1,086
Net imports	−262	−370	−197	−515	−185	−332	−51	−57	−296	−126	−225	−186	−183
1975													
Crude imports	1,052	915	849	804	1,067	850	678	946	716	516	562	929	824
Product imports	48	68	27	46	56	56	48	50	40	57	26	27	41
Total imports	1,100	983	876	850	1,123	906	726	996	756	573	588	956	865
Exports	1,122	1,068	834	815	745	702	893	903	936	921	1,017	848	899
Net imports	−22	−85	42	35	378	204	−167	93	−180	−348	−429	108	−34
1976													
Crude imports	1,141	718	....	....	....	....	....	....	....	....	....	....	....
Product imports	25	31	....	....	....	....	....	....	....	....	....	....	....
Total imports	1,166	749	....	....	....	....	....	....	....	....	....	....	....
Exports	1,025	784	626	....	....	....	....	....	....	....	....	....	....
Net imports	141	−35	....	....	....	....	....	....	....	....	....	....	....
Japan													
1973													
Crude imports	4,662	4,775	4,830	4,864	4,918	5,043	4,697	5,550	4,878	5,483	5,029	5,139	4,992
Product imports	640	803	650	542	664	640	523	507	443	592	533	486	584
Total imports	5,302	5,578	5,480	5,406	5,582	5,683	5,220	6,057	5,321	6,075	5,562	5,625	5,576
Exports	11	33	23	28	19	13	39	31	21	25	13	25	24
Net imports	5,291	5,545	5,457	5,378	5,563	5,670	5,181	6,026	5,300	6,050	5,549	5,600	5,552
1974													
Crude imports	4,467	5,008	4,886	5,120	4,794	4,878	5,204	4,601	4,214	4,763	4,818	4,834	4,798
Product imports	648	671	684	625	858	823	755	624	531	529	569	597	662
Total imports	5,115	5,679	5,570	5,745	5,652	5,701	5,959	5,225	4,745	5,292	5,387	5,431	5,460
Exports	14	25	16	20	24	17	25	93	135	46	79	179	56
Net imports	5,101	5,654	5,554	5,725	5,628	5,684	5,934	5,132	4,610	5,246	5,308	5,252	5,404

Selected Developed Countries: Trends in Oil Trade
(Continued)

Thousand b/d

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
Japan (Continued)													
1976													
Crude imports	3,901	4,683	4,586	4,989	4,217	4,469	4,818	....	....	....	....	....	....
Product imports	699	649	704	563	593	637	....	....	....	....	....	....	....
Total imports	4,600	5,332	5,290	5,552	4,810	5,106	....	....	....	....	....	....	....
Exports	3	5	9	4	4	5	....	....	....	....	....	....	....
Net imports	4,597	5,327	5,281	5,548	4,806	5,101	....	....	....	....	....	....	....
France													
1973													
Crude imports	2,897	2,699	2,955	2,728	2,540	2,676	2,288	2,791	2,764	2,797	3,053	2,549	2,728
Product imports	137	174	148	142	176	128	138	169	139	171	126	117	147
Total imports	3,034	2,873	3,103	2,870	2,716	2,804	2,426	2,960	2,903	2,968	3,179	2,666	2,875
Exports[3]	338	343	315	309	400	373	329	390	390	344	336	362	352
Net imports	2,696	2,530	2,788	2,561	2,316	2,431	2,097	2,570	2,513	2,624	2,843	2,304	2,523
1974													
Crude imports	2,686	2,942	2,508	2,990	2,476	2,555	2,580	2,529	2,274	2,725	2,322	2,686	2,604
Product imports	80	121	80	121	144	98	180	152	188	157	134	200	138
Total imports	2,766	3,063	2,588	3,111	2,620	2,653	2,760	2,681	2,462	2,882	2,456	2,886	2,742
Exports[3]	338	329	327	309	320	309	305	291	249	256	285	286	303
Net imports	2,428	2,734	2,261	2,802	2,300	2,344	2,455	2,390	2,213	2,626	2,171	2,600	2,439
1975													
Crude imports	2,234	2,056	2,095	2,047	1,952	1,989	2,130	2,201	2,136	2,199	2,203	2,462	2,120
Product imports	213	266	203	165	127	162	180	100	118	113	131	131	158
Total imports	2,447	2,322	2,298	2,212	2,079	2,151	2,310	2,301	2,254	2,312	2,334	2,593	2,278
Exports[3]	291	276	240	287	249	306	246	414	345	282	326	303	297
Net imports	2,156	2,046	2,058	1,925	1,830	1,845	2,064	1,887	1,909	2,030	2,008	2,290	1,981
1976													
Crude imports	2,175	2,447	2,600	2,500	2,188	2,039	....	....	....	....	....	....	....
Product imports	134	144	158	158	128	233	....	....	....	....	....	....	....
Total imports	2,309	2,591	2,758	2,658	2,316	2,272	....	....	....	....	....	....	....
Exports	158	238	308	316	272	248	....	....	....	....	....	....	....
Net imports	2,151	2,353	2,450	2,342	2,044	2,024	....	....	....	....	....	....	....
Italy													
1973													
Crude imports	2,308	2,448	2,600	2,598	2,498	2,996	2,779	2,784	2,606	2,548	1,844	N.A.	2,567
Product imports	76	133	97	98	154	98	109	137	232	29	65	N.A.	102
Total imports	2,384	2,581	2,697	2,696	2,652	3,094	2,888	2,921	2,838	2,577	1,909	N.A.	2,669
Exports[3]	704	728	613	695	778	771	875	825	686	730	615	N.A.	678[2]
Net imports	1,680	1,853	2,084	2,001	1,874	2,323	2,013	2,096	2,152	1,847	1,294	N.A.	1,991[2]
1974													
Crude imports	1,576	2,824	2,270	2,527	2,161	2,435	2,575	2,800	2,254	2,270	2,007	2,530	2,349
Product imports	71	60	92	82	148	108	217	192	241	118	310	388	179
Total imports	1,647	2,884	2,362	2,609	2,309	2,543	2,792	2,992	2,495	2,388	2,317	2,918	2,528
Exports[3]	330	777	545	746	576	529	678	565	540	414	435	553	555
Net imports	1,317	2,107	1,817	1,863	1,733	2,014	2,114	2,427	1,955	1,974	1,882	2,365	1,973
1975													
Crude imports	1,726	1,559	1,970	1,495	1,779	1,581	2,157	1,745	1,906	2,330	1,946	2,420	1,889
Product imports	195	237	263	279	348	194	252	159	180	205	219	290	235
Total imports	1,921	1,796	2,233	1,774	2,127	1,775	2,409	1,904	2,086	2,535	2,165	2,710	2,124
Exports[3]	235	350	289	326	300	350	380	490	417	501	439	415	374
Net imports	1,686	1,446	1,944	1,448	1,827	1,425	2,029	1,414	1,669	2,034	1,726	2,295	1,750
1976													
Crude imports	1,693	....	....	....	....	....	....	....	....	....	....	....	....
Product imports	142	....	....	....	....	....	....	....	....	....	....	....	....
Total imports	1,835	....	....	....	....	....	....	....	....	....	....	....	....
Exports[3]	288	....	....	....	....	....	....	....	....	....	....	....	....
Net imports	1,547	....	....	....	....	....	....	....	....	....	....	....	....
United Kingdom													
1973													
Crude imports	2,276	2,090	2,273	2,248	2,402	2,535	2,175	2,818	1,917	2,892	2,415	2,003	2,329
Product imports	615	533	457	359	488	439	323	417	361	416	326	208	409
Total imports	2,891	2,623	2,730	2,607	2,890	2,974	2,498	3,235	2,278	3,308	2,741	2,211	2,738
Exports[3]	464	311	323	329	332	257	430	555	496	464	488	304	396
Net imports	2,427	2,312	2,407	2,278	2,558	2,717	2,068	2,680	1,782	2,844	2,253	1,907	2,342

Selected Developed Countries: Trends in Oil Trade
(Continued)

Thousand b/d

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
United Kingdom (Continued)													
1974													
Crude imports	2,593	2,439	2,486	2,437	2,486	2,442	2,182	1,994	2,144	2,534	2,259	1,941	2,271
Product imports	440	372	353	306	364	291	326	252	246	324	372	385	314
Total imports	3,033	2,811	2,839	2,743	2,850	2,733	2,508	2,246	2,390	2,858	2,631	2,326	2,585
Exports[3]	491	256	204	238	344	373	331	364	353	385	268	314	321
Net imports	2,542	2,555	2,635	2,505	2,506	2,360	2,177	1,882	2,037	2,473	2,363	2,012	2,264
1975													
Crude imports	2,216	2,030	1,491	1,849	1,802	1,926	1,748	1,776	1,687	2,032	1,429	1,599	1,775
Product imports	442	329	267	290	231	257	262	247	240	303	348	344	292
Total imports	2,658	2,359	1,758	2,139	2,033	2,183	2,010	2,023	1,927	2,335	1,777	1,943	2,067
Exports[3]	310	343	224	226	262	303	317	308	357	423	299	260	300
Net imports	2,348	2,016	1,534	1,913	1,771	1,880	1,693	1,715	1,570	1,912	1,478	1,683	1,767
1976													
Crude imports	1,888	1,986	1,763	1,938	1,698	1,814	....	....	....	....	....	....	....
Product imports	302	314	421	301	318	267	....	....	....	....	....	....	....
Total imports	2,190	2,300	2,184	2,239	2,016	2,081	....	....	....	....	....	....	....
Exports[3]	333	264	384	332	349	327	....	....	....	....	....	....	....
Net imports	1,857	2,036	1,800	1,907	1,667	1,754	....	....	....	....	....	....	....
West Germany													
1973													
Crude imports	2,177	2,217	2,226	2,201	2,173	2,306	2,091	2,140	2,297	2,359	2,274	2,067	2,210
Product imports	776	788	690	831	870	748	789	710	828	904	859	709	836
Total imports	2,953	3,005	2,916	3,032	3,043	3,054	2,889	2,850	3,125	3,263	3,133	2,776	3,046
Exports	153	177	164	135	184	174	177	185	155	239	235	141	177
Net imports	2,800	2,828	2,752	2,897	2,859	2,880	2,712	2,665	2,970	3,024	2,898	2,635	2,869
1974													
Crude imports	2,050	1,891	1,973	1,962	1,990	2,245	2,080	2,147	2,055	2,048	2,244	1,918	2,050
Product imports	613	774	676	646	795	740	882	891	806	756	669	689	746
Total imports	2,663	2,665	2,649	2,608	2,785	2,985	2,962	3,038	2,861	2,804	2,913	2,607	2,796
Exports	180	178	238	147	236	141	170	214	193	165	184	186	199
Net imports	2,483	2,487	2,411	2,461	2,549	2,844	2,792	2,824	2,668	2,639	2,729	2,421	2,597
1975													
Crude imports	1,684	1,614	1,453	1,798	1,754	1,911	1,676	1,839	1,810	2,051	2,075	1,935	1,800
Product imports	583	766	606	824	575	920	794	767	873	789	667	718	709
Total imports	2,267	2,380	2,059	2,622	2,329	2,831	2,470	2,606	2,683	2,840	2,742	2,653	2,509
Exports	158	120	113	132	100	121	137	120	133	125	161	126	129
Net imports	2,109	2,260	1,946	2,490	2,229	2,710	2,333	2,486	2,550	2,715	2,581	2,527	2,380
1976													
Crude imports	1,669	1,836	1,717	1,823	1,830	....	....	....	....	....	....	....	....
Product imports	761	978	792	808	833	....	....	....	....	....	....	....	....
Total imports	2,430	2,814	2,509	2,631	2,663	....	....	....	....	....	....	....	....
Exports	113	115	148	115	131	....	....	....	....	....	....	....	....
Net imports	2,317	2,699	2,361	2,516	2,532	....	....	....	....	....	....	....	....

[1] Bureau of the Mines data through Mar 1976, thereafter API.
[2] Estimated.
[3] Including bunkers.

Developed Countries: Exports to OPEC[1]
(Continued)

Million US $ (f.o.b.)

	Algeria	Ecua-dor	Gabon	Indo-nesia	Iran	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Vene-zuela	Total
Italy (Continued)														
1975	554.3	32.2	15.3	86.4	564.3	260.7	117.4	1,007.1	298.1	29.3	320.3	103.7	320.6	3,709.7
1st Qtr	98.7	12.0	2.5	37.3	100.0	56.3	24.6	290.0	66.7	7.4	53.3	12.7	61.5	823.0
2d Qtr	107.3	5.9	3.4	19.4	145.5	82.8	42.9	294.3	72.7	3.4	61.1	22.3	77.2	938.2
3d Qtr	152.0	6.7	4.9	12.7	147.5	72.0	23.1	254.0	82.1	3.8	81.0	16.5	93.7	950.0
4th Qtr	177.4	4.2	2.6	12.4	148.8	37.1	20.9	149.2	64.1	6.9	113.8	32.3	75.4	845.1
1976														
1st Qtr	104.5	4.3	2.4	12.3	140.4	42.7	26.3	186.0	46.2	6.7	96.3	23.8	63.7	755.8
Apr (est.)	24.3	2.1	0.8	6.6	55.6	22.1	8.6	68.4	24.9	2.0	36.8	7.7	22.5	282.4
Canada														
1974	155.5	11.8	....	56.1	64.1	18.0	5.0	6.0	19.9	6.8	18.3	20.6	166.1	547.6
1975	99.2	21.3	0.5	63.7	141.4	66.1	15.8	22.3	33.7	1.3	34.1	4.6	195.4	699.5
1st Qtr	32.2	5.2	0.2	17.5	22.0	8.8	1.7	2.2	7.8	0.2	3.4	0.6	58.0	159.8
2d Qtr	58.6	5.8	0.1	16.0	40.7	28.3	1.3	8.4	8.0	0.2	6.5	0.8	59.3	234.0
3d Qtr	2.2	5.1	0.2	14.8	43.9	18.1	3.9	7.8	8.5	0.1	12.5	1.2	23.9	142.2
4th Qtr	6.2	5.2	....	15.4	34.8	10.9	8.9	3.9	9.4	0.8	11.7	2.1	54.2	163.5
1976														
1st Qtr	7.1	1.9	0.1	7.8	32.4	21.7	3.9	3.3	8.9	1.2	30.6	2.5	45.6	167.0
Apr	1.0	2.2	....	6.8	10.1	2.1	0.6	1.8	2.6	0.2	2.7	1.0	28.2	59.3
May	6.1	9.6	1.0	2.8	12.9	4.2	0.6	1.1	3.2	....	6.7	0.8	14.0	63.0

[1] Data are unadjusted.

Developed Countries: Imports From OPEC[1]

Million US $ (c.i.f.)

	Algeria	Ecua-dor	Gabon	Indo-nesia	Iran	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Vene-zuela	Total
United States														
1974	1,169.6	527.3	176.0	1,887.8	2,459.8	1.0	15.4	1.5	3,541.1	85.2	1,926.5	427.9	5,037.3	17,256.4
1975	1,447.9	515.0	197.0	2,436.2	1,574.0	22.4	126.2	1,120.1	3,518.9	81.3	2,720.3	764.2	3,847.5	18,371.0
1st Qtr	387.0	115.7	33.0	497.5	436.1	2.1	29.3	108.4	1,014.9	23.2	864.7	134.5	1,138.9	4,785.3
2d Qtr	378.4	115.5	78.1	549.9	393.3	3.1	35.0	189.6	763.3	16.7	464.5	162.5	1,015.6	4,165.5
3d Qtr	376.3	136.2	58.3	735.2	269.2	8.1	25.2	490.5	841.8	22.7	421.6	252.0	881.7	4,518.8
4th Qtr	306.2	147.6	27.6	653.6	475.4	9.1	36.7	331.6	898.9	18.7	969.5	215.2	811.3	4,901.4
1976														
1st Qtr	447.4	109.4	51.3	714.4	377.9	1.2	25.8	485.0	1,016.7	22.3	1,153.0	272.7	893.3	5,570.4
Apr	189.3	29.7	12.3	245.1	130.9	0.2	2.9	169.1	450.0	....	407.0	96.2	256.6	1,989.3
Japan														
1974	34.3	22.3	6.8	4,568.1	4,765.3	201.7	2,131.2	364.0	448.9	34.8	5,236.8	2,103.9	46.5	19,964.6
1975	36.4	13.4	12.8	3,434.7	4,984.0	396.0	2,011.5	280.4	282.4	31.7	6,138.0	1,771.7	34.0	19,427.0
1st Qtr	5.2	4.5	2.7	958.8	1,458.8	88.7	471.2	50.8	69.1	2.7	1,388.9	131.0	4.5	4,636.9
2d Qtr	0.2	5.0	4.4	804.8	1,222.5	74.8	510.9	58.6	60.7	14.1	1,494.6	631.6	9.7	4,891.9
3d Qtr	16.8	1.7	3.4	799.0	1,090.6	105.5	493.5	90.1	78.1	8.6	1,527.8	387.3	12.3	4,614.7
4th Qtr	14.2	2.2	2.3	872.1	1,212.1	127.0	535.9	80.9	74.5	6.3	1,726.7	621.8	7.5	5,283.5
1976														
1st Qtr	8.6	6.0	5.9	963.4	975.2	119.4	535.4	16.0	74.1	9.4	1,858.1	635.9	9.7	5,217.2
Apr	....	5.1	1.9	324.7	455.7	52.6	175.3	19.8	0.6	1.5	685.0	181.0	....	1,903.2
May	....	0.6	....	351.4	291.9	53.6	174.5	22.6	9.4	1.5	635.0	171.7	3.6	1,715.8
West Germany														
1974	1,088.7	66.0	99.0	188.7	1,240.3	305.3	355.0	1,628.7	1,001.9	12.4	2,076.9	105.7	237.7	8,406.3
1975	1,025.4	62.0	107.0	152.8	1,467.3	127.8	226.9	1,391.2	962.4	116.1	1,618.2	739.7	231.2	8,228.0
1st Qtr	236.7	18.4	25.0	32.5	271.3	49.1	56.6	277.4	213.9	25.0	430.3	212.4	41.6	1,890.2
2d Qtr	275.9	21.7	21.0	44.4	358.2	36.4	72.7	320.3	250.4	25.3	452.9	144.0	67.8	2,091.0
3d Qtr	209.9	10.7	29.0	41.1	388.3	26.3	53.1	365.6	197.8	29.4	370.3	169.3	65.1	1,955.9
4th Qtr	302.9	11.2	32.0	34.8	449.5	16.0	44.5	427.9	300.3	36.4	364.7	214.0	56.7	2,290.9

Developed Countries: Exports to OPEC[1]

Million US $ (f.o.b.)

	Algeria	Ecua-dor	Gabon	Indo-nesia	Iran	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Vene-zuela	Total
United States														
1974	315.1	325.8	36.8	529.3	1,734.2	284.8	208.5	139.4	289.8	26.8	835.1	196.8	1,768.1	6,690.5
1975	631.8	414.4	58.7	810.3	3,241.7	309.7	366.1	231.4	536.3	51.3	1,501.8	371.5	2,243.3	10,768.3
1st Qtr ...	124.7	110.3	8.9	180.6	745.1	89.2	74.5	74.2	116.0	11.8	273.1	84.1	537.4	2,429.9
2d Qtr ...	181.1	108.7	29.2	248.5	847.1	69.7	95.0	59.5	120.2	10.5	264.3	104.1	559.3	2,697.2
3d Qtr ...	118.0	101.5	15.3	196.5	805.0	72.0	87.2	56.0	148.9	10.8	447.0	91.7	557.4	2,707.3
4th Qtr ..	208.0	93.9	5.3	184.7	844.5	78.8	109.4	41.7	151.2	18.2	517.4	91.6	589.2	2,933.9
1976														
1st Qtr ...	75.8	91.3	9.1	271.0	748.4	78.6	111.9	33.1	127.4	16.5	484.9	111.2	591.7	2,750.9
2nd Qtr ..	165.5	99.8	9.1	286.7	617.1	95.4	110.4	52.5	161.6	19.6	743.1	112.1	640.1	3,113.0
Japan														
1974	154.5	113.8	7.6	1,452.3	1,014.3	473.4	279.3	234.2	285.0	81.9	677.4	274.0	398.8	5,446.5
1975	260.9	177.8	14.2	1,849.9	1,855.5	818.9	367.1	222.3	586.1	122.3	1,350.5	420.2	360.2	8,405.9
1st Qtr ...	64.2	39.0	3.2	439.3	396.5	200.5	74.1	70.9	111.9	29.6	274.9	90.7	96.1	1,891.0
2d Qtr ...	40.8	35.4	6.0	472.2	441.3	227.1	91.0	53.8	153.0	22.9	336.0	107.6	84.7	2,071.9
3d Qtr ...	63.7	40.1	2.8	468.3	560.8	183.9	84.9	51.4	166.9	24.1	383.5	115.0	85.9	2,231.3
4th Qtr ..	92.3	63.1	2.2	470.0	456.8	207.4	117.1	46.1	154.3	45.8	356.1	106.9	93.5	2,211.7
1976														
1st Qtr ...	44.4	21.6	1.8	361.6	400.0	127.9	126.3	68.0	112.6	56.5	331.0	130.8	89.3	1,871.8
Apr	23.8	12.4	1.2	122.7	126.1	56.7	53.1	17.4	36.8	10.7	156.5	42.5	36.5	696.4
May	15.8	7.3	0.4	122.9	145.5	83.6	52.0	19.8	46.3	11.2	171.5	43.7	38.8	758.8
West Germany														
1974	482.3	82.3	14.9	324.3	1,140.9	373.5	160.0	402.4	346.0	77.9	285.9	246.5	331.0	4,267.9
1975	610.1	76.6	24.0	392.7	2,104.9	1,046.9	203.3	536.4	653.5	47.0	564.7	145.2	371.6	6,777.0
1st Qtr ...	147.7	22.4	6.2	96.6	382.0	274.3	53.9	136.8	129.7	9.9	112.3	39.1	78.9	1,489.8
2d Qtr ...	140.0	18.8	6.2	99.6	557.1	305.9	49.6	123.2	141.0	9.1	130.1	33.8	86.5	1,700.8
3d Qtr ...	171.7	19.0	5.5	94.5	597.2	255.1	53.2	133.4	176.9	10.9	158.8	35.1	103.0	1,814.2
4th Qtr ..	150.7	16.4	6.1	102.0	568.7	211.6	46.6	143.0	205.9	17.2	163.4	37.3	103.3	1,772.3
1976														
1st Qtr ...	178.1	17.5	5.3	97.6	484.5	216.7	56.0	135.2	185.5	15.0	182.9	45.9	104.2	1,724.4
Apr	50.9	5.7	2.0	32.6	179.7	61.0	20.0	30.4	61.7	7.4	98.0	16.4	35.2	601.0
May	53.5	5.9	2.0	34.5	177.3	70.9	23.3	33.8	57.4	5.3	95.9	18.7	40.1	618.6
France														
1974	1,296.5	18.4	203.1	103.9	257.4	214.3	63.9	362.5	175.0	20.7	120.1	186.7	141.0	3,163.5
1975	1,904.3	18.5	336.4	120.5	631.6	409.0	97.6	405.7	462.9	15.0	198.7	175.9	175.9	4,952.1
1st Qtr ...	529.4	5.4	71.4	27.5	125.5	84.7	22.2	111.4	115.6	2.8	40.5	32.9	32.9	1,202.2
2d Qtr ...	527.3	5.1	93.7	45.1	178.8	129.3	21.2	110.5	124.8	5.1	48.2	44.4	44.4	1,377.9
3d Qtr ...	394.5	4.3	81.8	21.5	144.5	89.0	31.5	84.7	102.7	3.1	50.5	43.1	43.1	1,094.3
4th Qtr ..	453.1	3.7	89.5	26.4	182.8	106.0	22.7	99.1	119.8	4.1	59.5	55.5	55.5	1,277.7
1976														
1st Qtr ...	392.6	4.3	84.5	63.2	176.2	134.8	34.7	94.2	102.7	7.3	65.3	44.1	36.3	1,240.2
Apr	116.2	2.3	29.5	17.7	59.6	27.7	13.7	32.5	41.7	1.6	30.6	16.9	12.5	402.5
United Kingdom														
1974	128.9	31.9	4.0	109.5	628.9	143.0	139.6	147.2	522.4	68.5	582.3	242.8	117.6	2,566.6
1975	174.3	38.8	6.4	134.8	1,104.1	303.0	218.7	237.1	1,130.2	122.0	441.7	441.8	200.3	4,553.3
1st Qtr ...	45.7	10.2	1.6	45.0	237.2	64.7	47.0	56.1	225.0	21.0	86.7	86.7	35.6	962.5
2d Qtr ...	39.3	10.2	2.0	33.8	338.5	90.6	51.2	62.9	288.9	29.3	118.3	118.3	48.7	1,232.0
3d Qtr ...	38.8	8.7	1.2	30.3	....	75.6	44.4	59.2	296.0	28.6	125.0	125.1	49.7	1,179.2
4th Qtr ..	50.5	9.7	1.6	25.7	231.8	72.1	76.1	58.9	320.3	43.2	111.7	111.7	66.3	1,179.6
1976														
1st Qtr ...	50.0	6.9	2.1	33.3	236.4	95.0	51.9	57.0	339.8	38.3	131.5	140.6	54.9	1,237.7
2nd Qtr ..	46.9	9.1	1.9	38.7	250.4	60.6	59.5	60.8	338.6	44.4	160.8	137.2	48.7	1,257.6
Italy														
1974	325.4	25.7	9.9	57.9	282.2	95.9	65.5	854.3	131.0	51.6	133.4	183.0	211.3	2,427.1

Selected OECD Countries: Trends in Inland Oil Consumption

Thousand b/d

		1972	1973	1974	1975	1976
United States[1]	Annual Average	16,367	17,308	16,653	16,291	....
	Jan	16,735	18,667	17,286	17,983	18,544
	Feb	17,861	18,941	17,366	17,084	17,340
	Mar	16,870	17,193	16,104	16,316	17,239
	Apr	15,529	15,923	15,929	16,041	16,153(est.)
	May	14,801	16,603	15,726	15,118	15,708(est.)
	Jun	15,615	16,471	16,117	15,611	15,627(est.)
	Jul	14,821	16,336	16,349	15,762	....
	Aug	15,936	17,413	16,550	15,767	....
	Sep	15,489	16,620	16,024	15,769	....
	Oct	16,455	17,202	17,050	16,344	....
	Nov	17,610	18,492	17,351	15,721	....
	Dec	18,738	17,538	18,013	17,987	....
Canada	Annual Average	1,511	1,597	1,630	1,593(est.)	....
	Jan	1,536	1,667	1,823	1,691	1,748
	Feb	1,793	1,747	1,863	1,872	1,730
	Mar	1,612	1,584	1,659	1,558	1,788
	Apr	1,367	1,431	1,560	1,592	1,512
	May	1,374	1,486	1,577	1,474	1,532
	Jun	1,334	1,474	1,455	1,550	1,550
	Jul	1,294	1,490	1,534	1,537	....
	Aug	1,394	1,557	1,463	1,444	....
	Sep	1,402	1,427	1,415	1,474	....
	Oct	1,577	1,680	1,680	1,550(est.)	....
	Nov	1,685	1,801	1,714	1,577(est.)	....
	Dec	1,782	1,828	1,831	1,855(est.)	....
Japan[2]	Annual Average	3,648	4,144	4,019	3,712	....
	Jan	3,632	4,121	4,273	3,850	4,143
	Feb	4,207	4,532	4,709	4,242	4,382
	Mar	3,907	4,450	4,508	3,978	4,286
	Apr	3,408	4,008	3,805	3,448	3,850
	May	3,219	3,822	3,718	3,296	3,489
	Jun	3,238	3,950	3,710	3,325	....
	Jul	3,283	3,783	3,574	3,437	....
	Aug	3,380	3,790	3,787	3,397	....
	Sep	3,415	3,813	3,868	3,569	....
	Oct	3,570	4,212	3,843	3,584	....
	Nov	4,035	4,562	4,076	3,940	....
	Dec	4,521	4,716	4,401	4,519	....
Western Europe Austria	Annual Average	203	227	203	199	....
	Jan	189	220	235	183	208
	Feb	221	225	220	190	208
	Mar	212	224	160	172	209
	Apr	183	204	169	184	156
	May	174	210	172	156	169
	Jun	181	200	169	186	....
	Jul	179	221	214	210	....
	Aug	187	222	218	223	....
	Sep	213	227	222	232	....
	Oct	227	253	243	226	....
	Nov	246	276	215	201	....
	Dec	230	234	203	229	....
Belgium/Luxembourg	Annual Average	485	505	440	416	....
	Jan	535	543	512	550	497
	Feb	591	589	528	558	546
	Mar	546	570	392	410	....
	Apr	470	565	383	465	....

Developed Countries: Imports From OPEC[1]
(Continued)

Million US $ (c.i.f.)

	Algeria	Ecuador	Gabon	Indonesia	Iran	Iraq	Kuwait	Libya	Nigeria	Qatar	Saudi Arabia	UAE	Venezuela	Total
West Germany (Continued)														
1976														
1st Qtr ...	264.0	13.4	21.2	48.2	426.0	27.3	51.3	473.6	251.6	26.3	388.6	153.6	44.3	2,189.4
Apr	117.8	4.6	11.4	9.9	125.0	3.8	23.3	162.0	78.2	16.5	115.9	46.5	29.4	744.3
May.....	91.6	4.5	8.7	11.0	160.1	8.8	10.6	172.8	75.7	14.3	122.4	42.4	24.8	747.7
France														
1974.......	956.7	9.7	320.7	61.4	715.8	1,241.0	937.4	386.3	872.0	37.3	3,024.1	152.5	133.4	8,848.3
1975.......	747.3	15.7	247.0	55.1	1,286.2	1,128.5	652.0	200.5	859.4	260.0	3,041.8	868.4	86.1	9,448.0
1st Qtr ...	150.1	4.7	58.3	17.3	430.5	324.6	195.3	57.3	215.0	84.0	756.8	180.9	32.1	2,506.9
2d Qtr ...	172.5	3.3	62.2	12.6	208.0	297.6	213.2	53.7	211.9	64.3	733.8	246.2	27.4	2,306.7
3d Qtr ...	192.1	4.2	48.0	13.1	256.4	255.2	123.8	57.1	220.3	35.6	695.4	137.0	12.0	2,059.2
4th Qtr ..	232.6	3.5	78.5	12.1	391.3	251.1	119.7	32.4	212.2	76.1	855.8	304.3	14.6	2,584.2
1976														
1st Qtr ...	179.7	3.7	64.2	14.4	358.9	281.4	63.1	78.6	207.2	98.4	982.2	452.6	32.6	2,817.0
Apr	65.4	1.4	28.7	5.7	97.2	112.7	23.2	32.5	58.3	47.2	370.9	79.2	6.6	929.0
United Kingdom														
1974.......	91.1	5.1	74.4	33.4	1,208.6	244.5	1,286.4	910.2	836.2	93.5	2,785.3	135.4	316.0	8,020.1
1975.......	190.1	4.6	8.1	33.0	1,557.4	216.3	934.4	292.4	700.9	315.6	1,948.9	385.9	374.1	6,961.7
1st Qtr ...	30.7	1.3	0.5	5.5	430.3	61.0	317.3	107.1	199.5	64.8	562.6	106.6	73.2	1,960.4
2d Qtr ...	40.5	1.6	2.5	10.3	360.4	42.9	204.4	81.4	147.6	108.4	560.4	126.3	121.3	1,808.0
3d Qtr ...	44.4	0.8	0.6	7.0	421.2	46.1	198.8	54.3	142.7	71.1	419.9	80.2	92.3	1,579.4
4th Qtr ..	74.5	0.9	4.5	10.2	345.5	66.3	213.9	49.6	211.1	71.3	406.0	72.8	87.3	1,613.9
1976														
1st Qtr ...	55.1	0.9	1.2	7.8	428.1	69.8	224.3	70.1	160.1	149.6	490.9	97.7	69.7	1,825.3
2d Qtr ...	30.4	1.2	9.8	8.8	477.2	69.1	230.0	41.4	167.6	145.7	387.2	102.7	65.0	1,736.1
Italy														
1974.......	269.1	25.1	45.3	72.7	1,122.0	1,169.9	480.4	2,374.9	359.9	142.2	3,042.0	104.6	104.6	9,312.9
1975.......	358.9	25.6	44.1	45.7	1,019.3	1,419.9	349.6	1,075.0	65.1	143.2	2,148.3	148.2	150.2	6,993.1
1st Qtr ...	55.4	7.5	21.2	12.8	264.4	361.8	57.6	207.3	41.0	36.2	679.7	37.6	33.5	1,816.0
2d Qtr ...	76.8	7.3	19.2	9.0	330.6	314.5	144.9	227.5	7.6	38.9	528.2	39.7	52.7	1,796.9
3d Qtr ...	154.1	5.7	0.2	12.5	271.9	428.6	91.4	329.5	12.1	42.1	464.2	43.8	49.8	1,905.9
4th Qtr ..	72.6	5.1	3.5	11.4	152.4	315.0	55.7	310.7	4.4	26.0	476.2	27.1	14.2	1,474.3
1976														
1st Qtr ...	81.3	4.8	2.0	21.4	290.5	313.3	17.9	351.8	10.7	33.5	471.3	62.9	27.8	1,689.2
Apr (est.) .	35.7	....	0.1	8.6	100.8	90.2	15.7	139.2	6.1	7.6	247.6	20.4	14.6	686.6
Canada														
1974.......	7.1	39.5	4.9	4.8	646.1	38.7	68.7	32.5	56.6	3.4	329.9	112.6	1,353.3	2,698.3
1975.......	1.6	20.2	25.3	14.3	759.8	133.5	111.9	35.5	79.1	13.6	750.9	125.8	1,102.6	3,174.1
1st Qtr ...	....	4.1	....	2.0	175.8	18.8	50.3	....	18.3	6.7	232.8	62.2	310.5	881.5
2d Qtr ...	....	3.5	1.6	4.9	237.6	39.9	30.0	....	18.9	3.5	218.8	32.2	288.4	879.3
3d Qtr ...	....	4.2	1.9	4.5	218.8	31.9	17.6	15.8	21.1	2.1	162.5	19.1	232.7	732.2
4th Qtr ..	1.6	8.4	21.8	2.9	127.6	42.9	14.0	19.7	20.8	1.3	136.8	12.3	271.0	681.1
1976														
1st Qtr ...	19.1	3.8	11.4	2.2	210.8	30.4	6.5	51.0	85.1	....	118.2	36.0	267.1	841.6
Apr	....	0.8	6.4	1.1	70.1	7.6	6.5	18.6	27.7	....	53.2	6.1	139.2	317.3
May.....	15.3	1.1	1.8	2.9	79.8	....	....	10.7	5.8	....	3.7	5.9	118.8	245.8

[1] Data are unadjusted.

Selected OECD Countries: Trends in Inland Oil Consumption
(Continued)

Thousand b/d

		1972	1973	1974	1975	1976
Western Europe (Continued)						
Belgium/Luxembourg (Continued)	May	454	483	419	363	....
	Jun	464	463	376	366	....
	Jul	346	359	339	288	....
	Aug	367	389	352	331	....
	Sep	479	465	478	372	....
	Oct	484	556	534	442	....
	Nov	563	558	427	439	....
	Dec	530	503	542	508	....
France	Annual Average	1,985	2,219	2,094	1,921	....
	Jan	2,276	2,743	2,523	2,190	2,449
	Feb	2,450	2,687	2,389	2,243	2,484
	Mar	2,100	2,528	2,249	1,952	2,370
	Apr	1,848	2,296	1,970	2,202	2,107
	May	1,743	1,890	1,915	1,640	1,789
	Jun	1,597	1,685	2,103	1,642	1,622
	Jul	1,444	1,566	1,703	1,491	1,618
	Aug	1,441	1,495	1,506	1,300	....
	Sep	1,950	1,932	1,996	1,785	....
	Oct	2,106	2,482	2,045	1,914	....
	Nov	2,332	2,593	2,260	2,074	....
	Dec	2,574	2,768	2,492	2,653	....
Italy[3]	Annual Average	1,435	1,525	1,521	1,468	....
	Jan	1,720	1,781	1,755	1,792	1,748
	Feb	1,756	1,866	1,760	1,767	1,713
	Mar	1,450	1,710	1,579	1,558	1,621
	Apr	1,169	1,420	1,421	1,530	1,409
	May	1,138	1,285	1,349	1,174	1,238
	Jun	1,101	1,255	1,314	1,289	....
	Jul	1,175	1,303	1,368	1,234	....
	Aug	1,129	1,255	1,287	1,105	....
	Sep	1,450	1,462	1,527	1,465	....
	Oct	1,650	1,610	1,569	1,679	....
	Nov	1,702	1,551	1,580	1,448	....
	Dec	1,899	1,698	1,753	1,600	....
Netherlands	Annual Average	496	507	444	412	....
	Jan	509	584	468	399	480
	Feb	591	586	522	430	542
	Mar	557	542	438	379	543
	Apr	512	541	530	474	443
	May	453	475	432	390	....
	Jun	430	436	427	403	....
	Jul	374	408	415	354	....
	Aug	435	437	414	364	....
	Sep	440	485	440	412	....
	Oct	515	594	472	440	....
	Nov	581	503	440	419	....
	Dec	567	505	433	484	....
Norway	Annual Average	N.A.	N.A.	143	150	....
	Jan	....	....	155	142	161
	Feb	....	....	154	171	180
	Mar	....	....	124	137	182
	Apr	....	....	126	149	142
	May	....	....	118	145	147
	Jun	....	....	141	130	153
	Jul	....	....	113	120	....
	Aug	....	....	125	140	....
	Sep	....	....	151	161	....

Selected OECD Countries: Trends in Inland Oil Consumption
(Continued)

Thousand b/d

		1972	1973	1974	1975	1976
Western Europe (Continued)	Oct	....	....	161	162	....
Norway (Continued)	Nov	....	....	174	181	....
	Dec	....	....	180	162	....
Spain	Annual Average	471	581	626	667	....
	Jan	483	539	610	720	758
	Feb	508	568	639	682	785
	Mar	461	564	571	625	770
	Apr	447	537	595	688	742
	May	444	523	620	622	685
	Jun	472	530	608	610	721
	Jul	457	466	630	624	....
	Aug	462	667	617	584	....
	Sep	477	576	636	667	....
	Oct	459	669	677	713	....
	Nov	500	646	653	706	....
	Dec	515	681	650	735	....
Sweden	Annual Average	N.A.	533	490	478	....
	Jan	....	603	521	511	564
	Feb	....	555	415	547	529
	Mar	....	540	427	479	539
	Apr	....	506	441	532	450
	May	....	524	495	392	397
	Jun	....	420	464	511	....
	Jul	....	387	423	362	....
	Aug	....	455	463	459	....
	Sep	....	492	516	503	....
	Oct	....	656	553	462	....
	Nov	....	645	568	446	....
	Dec	....	618	581	539	....
United Kingdom	Annual Average	1,954	1,974	1,857	1,613	....
	Jan	2,121	2,315	2,045	1,981	1,707
	Feb	2,401	2,313	2,127	1,906	1,896
	Mar	2,249	2,271	2,133	1,731	1,907
	Apr	2,027	2,038	1,899	1,826	1,744
	May	1,851	1,939	1,704	1,482	1,440
	Jun	1,745	1,697	1,545	1,414	....
	Jul	1,519	1,637	1,531	1,322	....
	Aug	1,527	1,615	1,513	1,208	....
	Sep	1,703	1,727	1,663	1,502	....
	Oct	1,959	2,150	2,049	1,704	....
	Nov	2,194	2,258	2,108	1,723	....
	Dec	2,132	1,906	1,983	1,821	....
West Germany	Annual Average	2,521	2,693	2,408	2,319	....
	Jan	2,545	2,868	2,556	2,183	2,459
	Feb	2,803	2,850	1,969	2,455	2,490
	Mar	2,525	2,707	2,173	2,234	2,742
	Apr	2,347	2,809	2,539	2,431	2,332
	May	2,335	2,546	2,403	2,253	2,314
	Jun	2,632	2,674	2,414	2,106	....
	Jul	2,188	2,196	2,548	2,319	....
	Aug	2,444	2,738	2,476	2,360	....
	Sep	2,487	2,618	2,473	2,309	....
	Oct	2,522	2,969	2,613	2,328	....
	Nov	2,667	2,883	2,432	2,361	....
	Dec	2,783	2,481	2,261	2,502	....

[1] Including bunkers, refinery fuel, and losses.
[2] Excluding crude oil burned directly and LPG.
[3] Principal products only.

Selected OECD Countries: Oil Stocks

Thousand Barrels, End of Month

	United States[1]	Japan	Canada	Austria	Belgium	Denmark	France	Ireland	Italy
1973 Sep	893,130[2]	306,000	113,193	N.A.	N.A.	30,996	194,122	5,555	N.A.
1974 Jan	867,706[2]	N.A.	125,289	8,833	34,378	27,974	175,470	5,555	153,402
Feb	850,525[2]	N.A.	117,811	7,750	34,018	25,017	174,594	5,490	N.A.
Mar	848,633[2]	260,000	116,060	7,234	32,011	23,623	174,689	5,227	131,707
Apr	865,539[2]	N.A.	119,981	8,359	25,404	25,849	171,229	6,037	143,876
May	907,949[2]	N.A.	N.A.	9,527	21,250	25,426	N.A.	5,920	145,628
Jun	927,934[2]	331,000	N.A.	9,811	23,944	25,010	195,976	5,015	152,731
Jul	943,833[2]	N.A.	131,553	10,454	31,375	28,025	N.A.	6,190	163,922
Aug	950,653	N.A.	143,060	9,694	36,150	29,310	214,868	6,658	154,351
Sep	961,857	365,000	148,305	10,278	39,208	31,697	242,433	6,439	167,163
Oct	970,016	N.A.	144,702	9,278	37,011	34,507	238,630	6,504	177,310
Nov	974,058	N.A.	143,570	9,519	38,916	31,609	247,594	6,139	170,039
Dec	958,173	330,000	142,233	9,490	38,529	33,390	239,462	7,453	169,710
1975 Jan	923,129	326,000	136,590	N.A.	40,406	33,609	230,271	7,702	N.A.
Feb	920,215	311,000	127,805	N.A.	39,318	33,726	221,161	7,694	139,744
Mar	904,413	286,000	133,805	N.A.	38,902	31,208	215,365	7,439	N.A.
Apr	904,807	296,000	131,547	N.A.	35,274	28,923	200,881	6,928	N.A.
May	923,612	313,000	140,466	N.A.	36,610	31,076	205,459	7,388	N.A.
Jun	882,188	309,000	140,617	10,257	36,704	34,566	203,831	7,665	169,776
Jul	896,123	324,000	140,199	10,154	39,457	35,551	209,276	7,380	167,696
Aug	914,987	342,000	147,653	9,293	41,858	38,894	228,906	7,928	169,937
Sep	943,898	340,000	147,939	8,913	41,420	40,844	223,942	7,599	N.A.
Oct	954,149	369,000	139,309	8,322	43,004	41,442	224,636	7,826	N.A.
Nov	959,742	350,000	143,171	8,694	45,742	39,902	215,839	7,300	164,162
Dec	941,303	322,000	138,462	7,329	40,194	40,325	195,998	7,081	N.A.
1976 Jan	909,537	308,000	128,356	6,877	38,508	39,223	182,887	6,825	N.A.
Feb	885,570	287,000	124,814	7,015	36,296	35,463	171,309	6,753	N.A.
Mar	896,676	287,000	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Apr	873,000	279,466	N.A.	6,957	36,836	32,047	164,148	7,037	141,992
May	866,381	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Jun	893,284	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Jul	918,754	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

	Luxembourg	Netherlands	Norway	Portugal	Spain	Sweden	Switzerland	Turkey	United Kingdom	West Germany
1973 Sep	469	N.A.	8,045	7,125	N.A.	43,398	26,514	N.A.	152,621	172,010
1974 Jan	475	22,842	7,928	5,220	35,004	36,427	25,871	6,964	133,444	160,622
Feb	423	22,893	8,446	5,745	40,449	37,668	25,995	N.A.	131,239	149,190
Mar	394	21,812	7,607	6,446	42,617	37,267	25,966	N.A.	131,743	156,001
Apr	350	22,294	9,176	7,840	47,414	39,128	26,382	9,979	134,816	165,549
May	380	22,404	10,373	6,782	48,326	39,311	26,010	9,432	145,277	153,592
Jun	343	22,477	11,373	7,278	47,662	39,493	26,010	11,811	156,249	156,519
Jul	460	22,550	10,476	7,307	50,217	43,034	26,966	9,446	167,637	170,827
Aug	416	22,462	10,549	7,380	53,042	46,173	27,667	11,826	168,944	170,404
Sep	402	22,484	11,592	6,650	52,399	48,545	28,324	10,023	174,988	177,456
Oct	380	22,542	10,541	7,264	53,538	47,815	28,309	12,527	175,237	187,968
Nov	423	22,491	8,753	7,169	54,524	47,414	28,689	10,016	170,440	182,595
Dec	431	22,506	9,410	6,847	51,772	44,421	29,244	10,476	165,053	179,938
1975 Jan	N.A.	22,542	8,651	6,344	N.A.	43,727	29,025	N.A.	N.A.	N.A.
Feb	1,829	17,994	8,483	5,920	N.A.	40,624	26,857	N.A.	N.A.	163,987
Mar	1,747	17,856	9,673	6,110	50,611	39,785	26,928	N.A.	N.A.	154,665
Apr	N.A.	17,995	9,906	5,950	N.A.	35,551	26,995	N.A.	N.A.	N.A.
May	N.A.	17,994	8,986	5,424	N.A.	35,697	27,039	N.A.	N.A.	147,321
Jun	2,104	17,995	9,789	5,928	48,633	34,675	27,652	N.A.	147,949	161,520
Jul	2,104	N.A.	11,753	5,665	48,603	36,756	27,879	N.A.	145,219	155,118
Aug	N.A.	N.A.	11,833	5,117	53,202	37,851	28,828	N.A.	154,541	158,468
Sep	N.A.	N.A.	10,987	6,446	51,677	40,114	29,623	N.A.	152,957	184,267
Oct	2,154	N.A.	12,651	6,548	N.A.	41,720	30,434	N.A.	150,299	188,165
Nov	2,153	N.A.	12,943	7,366	51,166	42,669	31,091	N.A.	146,891	189,683
Dec	2,044	N.A.	11,614	8,541	50,201	43,180	29,762	N.A.	138,941	186,668
1976 Jan	2,015	N.A.	12,410	5,533	48,728	42,742	29,200	N.A.	N.A.	184,829
Feb	1,891	N.A.	10,198	5,920	43,523	42,012	28,733	N.A.	N.A.	186,179
Mar	1,832	N.A.	9,570	7,234	N.A.	37,668	27,528	N.A.	N.A.	175,483
Apr	1,876	N.A.	10,811	5,453	N.A.	37,449	27,718	N.A.	N.A.	175,054

[1] Source: American Petroleum Institute. Including major products only.
[2] Estimated.

OECD Oil Consumption[1]

Million b/d

	1st Qtr	2d Qtr	3d Qtr	4th Qtr
1972	36.2	30.9	30.8	37.1
1973	38.8	34.2	34.0	38.6
1974	36.3	33.1	33.2	36.8
1975[2]	35.5	31.7	31.5	35.1

[1] Excluding Australia and New Zealand. Except for the United States, excluding bunkers, refinery fuel, and losses.
[2] Estimated.

Western Europe: Oil Spot Market Prices
1974-76

US $ per Barrel

	F.O.B. Rotterdam[1]				F.O.B. Italy[2]			
	Heavy Fuel Oil				Heavy Fuel Oil			
	1% Sulfur	3.5% Sulfur	Gas Oil	Gasoline (Premium)	1% Sulfur	3.5% Sulfur	Gas Oil	Gasoline (Premium)
1974								
Jan	17.92	15.95	18.45	18.33	17.08	15.48	17.38	17.79
Feb	13.24	12.12	13.72	19.07	13.24	12.22	12.52	18.38
Mar	10.90	10.25	13.22	21.87	11.30	10.94	11.96	21.61
Apr	10.05	9.37	11.17	21.10	9.91	9.22	10.12	20.51
May	10.28	10.12	12.26	20.57	9.94	9.53	11.42	19.19
Jun	10.12	9.62	11.88	17.17	9.86	9.29	11.24	16.61
Jul	9.77	9.22	12.38	14.71	9.58	9.12	11.86	14.17
Aug	9.71	9.06	12.24	13.61	9.40	8.98	12.05	12.96
Sep	10.13	9.43	12.41	13.44	9.85	9.59	11.96	12.31
Oct	10.68	9.68	12.32	12.89	9.96	9.54	11.82	11.84
Nov	11.12	10.35	11.96	13.15	10.46	10.28	11.47	11.78
Dec	11.46	10.31	12.71	13.73	10.45	10.05	11.76	12.62
1975								
Jan	12.13	10.42	11.60	14.07	10.55	10.15	11.55	13.10
Feb	11.90	10.41	10.92	14.18	10.56	10.20	10.84	13.20
Mar	11.88	10.64	11.02	14.35	10.61	10.38	10.92	13.40
Apr	11.54	10.24	11.83	15.08	11.02	10.60	11.30	14.09
May	10.66	9.71	12.74	16.06	10.56	10.43	11.99	15.57
Jun	9.64	9.08	14.14	16.72	9.62	9.46	13.43	16.18
Jul	9.27	8.65	13.18	15.27	8.84	8.51	12.84	15.24
Aug	9.35	8.69	14.62	14.95	8.71	8.08	13.80	14.67
Sep	9.38	8.52	15.41	14.85	8.88	8.30	14.98	14.02
Oct	9.14	7.96	15.70	15.27	8.98	8.06	15.37	14.55
Nov	9.58	8.37	14.75	15.88	8.99	8.26	14.38	15.30
Dec	9.87	8.65	14.06	16.39	8.99	8.81	13.94	15.88
1976								
Jan	10.21	9.53	13.83	16.35	9.56	9.35	13.61	15.57
Feb	10.54	9.99	13.68	17.16	10.15	9.78	13.48	16.58
Mar	10.43	10.01	13.86	17.79	10.13	9.81	13.69	17.29
Apr	10.46	9.50	14.08	19.01	10.31	9.55	13.78	18.10
May	10.49	9.57	14.01	19.38	10.19	9.74	13.90	18.37
Jun	10.24	9.62	14.16	19.34	10.04	9.91	14.01	18.42
2 Jul	10.22	9.63	13.87	18.99	10.00	9.93	13.83	18.34
9 Jul	10.26	9.59	13.65	18.88	10.00	9.93	13.87	18.22
16 Jul	10.34	9.59	13.80	18.52	10.07	9.96	13.80	17.81
23 Jul	10.56	9.59	13.97	18.22	10.07	9.96	13.83	17.57
30 Jul	10.63	9.70	14.40	18.22	10.07	9.96	13.77	17.34
6 Aug	10.86	9.78	14.53	18.22	10.07	9.96	14.08	17.34
13 Aug	10.93	9.85	14.43	18.17	10.15	9.96	14.15	17.28
20 Aug	11.49	9.96	14.45	18.05	10.52	10.00	14.27	17.28
27 Aug	11.57	10.04	14.38	17.69	10.52	10.00	14.30	17.07

[1] Barge lot—minimum 3,500 barrels.
[2] Cargo lot—minimum 130,000 barrels.

Selected Developed Countries: Retail Petroleum Product Prices

US Cents per Gallon

	Regular Gasoline		Premium Gasoline		Diesel Fuel	
	Price[1]	Tax	Price[1]	Tax	Price[1]	Tax
Italy[2]						
1973 - Oct	80	61	85	62	43	21
1974 - Jun	113	72	119	75	62	29
1975 - Jan	131	90	137	93	62	29
Jun	131	90	137	93	65	30
1976 - Jan	137	90	144	93	67	29
Mar	160	100	183	121	71	30
West Germany						
1973 - Oct	104	75	116	76	105	71
1974 - Jun	127	77	138	79	129	73
1975 - Jan	120	78	130	79	127	71
Jun	123	78	133	79	127	71
1976 - Jan	131	78	140	79	131	74
Mar	131	78	140	79	131	74
United Kingdom						
1973 - Oct	57	36	59	36	59	36
1974 - Jun	85	44	88	44	87	44
1975 - Jan	112	44	116	44	89	44
Jun	112	44	116	44	87	44
1976 - Jan	119	60	122	61	98	43
Mar	119	60	122	61	98	43
Japan						
1973 - Oct	83	37	96	37	49	19
1974 - Jun	128	44	141	44	70	19
1975 - Jan	128	44	141	44	76	19
Jun	138	44	151	44	80	19
1976 - Jan	141	44	154	44	86	19
United States						
1973 - Oct	40	12	44	12	23	12
1974 - Jun	55	12	59	12	36	12
1975 - Jan	53	12	57	12	50	12
Jun	57	12	61	12	51	12
1976 - Jan	58	12	63	12	53	12
France[2]						
1973 - Oct	101	75	110	79	70	45
1974 - Jun	131	73	142	78	84	44
1975 - Jan	137	78	149	86	94	49
Jun	137	78	149	86	91	49
1976 - Jan	143	78	154	83	101	50
Mar	143	78	154	83	101	50

[1] Including tax.
[2] Government price ceilings in effect.
[3] British Columbia.

OPEC Countries: Crude Oil Prices

US $ per Barrel

	3d Qtr 1975		4th Qtr 1975		Jan–May 1976		Jun 1976		Jul 1976	
	Operating Company Cost[1]	Direct Sales Price[2]	Operating Company Cost	Direct Sales Price	Operating Company Cost	Direct Sales Price	Operating Company Cost	Direct Sales Price	Operating Company Cost	Direct Sales Price
OPEC average[3]	10.44	10.74	11.41	11.75	11.44	11.75	11.42	11.74	11.47	11.79
Saudi Arabia										
Light 34° API 1.70% sulfur	10.24	10.46	11.27	11.51	11.27	11.51	1.27	1.51	11.27	11.51
Berri 39° API 1.16% sulfur	10.88	11.11	11.62	11.87	11.62	11.87	11.62	11.87	11.62	11.87
Heavy 27° API 2.85% sulfur	10.05	10.27	10.90	11.14	10.90	11.14	10.82	11.04	10.82	11.04
Medium 31° API 2.40% sulfur	10.16	10.38	11.09	11.33	11.09	11.33	11.05	11.28	11.05	11.28
Iran										
Light 34° API 1.35% sulfur	10.45	10.67	11.40	11.62	11.40	11.62	1.40	11.62	11.40	11.62
Heavy 31° API 1.60% sulfur[4]	10.23	10.45	11.28	11.50	11.21	11.43	11.11	11.33	11.11	11.33
Iraq 35° API 1.95% sulfur	10.28	10.50	11.21	11.43	11.44	11.44	11.44	1.44	11.47	11.47
Nigeria 34° API 0.16% sulfur[5]	10.92	11.35	12.11	12.51	12.50	12.77	12.50	12.80	12.70	13.01
UAE 39° API 0.75% sulfur	10.54	10.87	11.62	11.92	11.62	11.92	11.62	11.92	11.62	11.92
Kuwait 31° API 2.50% sulfur	10.15	10.36	11.15	11.30	11.15	11.30	11.08	11.23	11.08	11.23
Libya 40° API 0.22% sulfur	11.00	11.20	12.08	12.32	12.08	12.32	12.08	12.32	12.34	12.62
Venezuela 26° API 1.52% sulfur[6]	10.42	N.A.	11.19	N.A.	10.96	11.16	11.02	11.22	11.12	11.32
Indonesia 35° API 0.09% sulfur	10.45	12.60	10.65	12.80	10.65	12.80	10.65	12.80	10.65	12.80
Algeria 42° API 0.10% sulfur[7]	11.63	11.75	12.62	12.75	12.91	12.91	13.00	13.00	13.10	13.10
Qatar 40° API 1.17% sulfur	10.88	11.17	11.54	11.85	11.54	11.85	11.54	11.85	11.54	1.85
Gabon 29° API 1.26% sulfur	9.23	10.50	10.29	11.55	10.29	11.55	10.29	1.55	10.29	11.55
Ecuador 28° API 0.93% sulfur	10.41	11.70	10.81	11.46	10.81	11.46	10.81	11.46	10.81	11.46

[1] Total average f.o.b. costs paid by present or former concessionaires.
[2] F.o.b. prices set by the government for direct sales and, in most cases, for the producing company buy-back oil.
[3] Weighted by the volume of production.
[4] Weighted averages for cost and price data for Jan-May period: $11.28 and $11.50 as of 1 Jan 1976 and $11.18 and $11.40 as of 14 Feb 1976.
[5] Weighted average for price data for Jan–May period: $12.75 for 1st Qtr and $12.80 for 2nd Qtr.
[6] Weighted average for cost and price data for Jan–May period: $10.92 and $11.12 for 1st Qtr and $11.02 and $11.22 for 2nd Qtr.
[7] Weighted average for cost and price data for Jan-May period: $12.85 for 1st Qtr and $13.00 for 2nd Qtr.

USSR: Crude Oil Production[1]

	Million b/d
1970	6.98
1971	7.44
1972	7.88
1973	8.42
1974	9.02
1975	9.63
1st Qtr	9.40
2d Qtr	9.56
3d Qtr	9.70
4th Qtr	9.86
1976	
Jan	9.85
Feb	9.98
Mar	10.18
Apr	10.05
May	10.05
Jun	10.12
Jul	10.19

[1] Excludes output of natural gas liquids (about 115,000 b/d in 1970; 145,000 b/d in 1971; 180,000 b/d in 1972; 210,000 b/d in 1973; 230,000 b/d in 1974; and 240,000 b/d in 1975.

USSR: Regional Production of Crude Oil[1]

Million b/d

	1970	1971	1972	1973	1974	1975[2]
Total	6.98	7.44	7.88	8.42	9.02	9.6
Urals-Volga	4.10	4.20	4.25	4.36	4.35	4.4
West Siberia	0.62	0.89	1.25	1.75	2.30	2.9
Central Asia	0.60	0.67	0.70	0.75	0.80	0.8
Azerbaydzhan SSR	0.40	0.38	0.35	0.35	0.34	0.5
North Caucasus	0.70	0.70	0.68	0.55	0.55	0.3
Ukrainian SSR	0.27	0.28	0.29	0.27	0.25	0.2
Komi ASSR	0.11	0.12	0.12	0.14	0.15	0.2
Beylorussian SSR	0.08	0.10	0.11	0.14	0.15	0.2
Far East	0.05	0.05	0.05	0.05	0.05	0.1
Other	0.05	0.05	0.08	0.06	0.08	Negl.

[1] Excludes natural gas liquids (about 115,000 b/d in 1970; 145,000 b/d in 1971; 180,000 b/d in 1972; 210,000 b/d in 1973; 230,000 b/d in 1974; and 240,000 b/d in 1975).
[2] Preliminary.

USSR: Imports of Oil

Thousand b/d

	1970	1971	1972	1973	1974	1975
Total	90	130	180	290	110	150
Middle East						
Egypt	40	40	20	4	3	5
Iraq	....	....	80	220	78	108
Other	50	90	80	66	29	37

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USSR: Exports of Oil

Thousand b/d

	1970	1971	1972	1973	1974	1975
Total	1,920	2,110	2,140	2,380	2,340	2,600
Other Communist countries	1,010	1,110	1,200	1,350	1,440	1,550
Eastern Europe	805	895	975	1,100	1,180	1,260
Asia	30	25	20	20	30	40
Cuba	120	130	140	150	155	160
Yugoslavia	55	60	65	80	75	90
Free World countries	910	1,000	940	1,030	900	1,050
North America	5	....	10	30	20	15
Canada	....	....	....	....	3	5
United States	5	....	10	30	17	10
Western Europe	760	830	815	880	750	880
Finland	155	170	170	200	180	175
France	50	90	60	105	30	70
Italy	205	180	170	175	135	135
Netherlands	30	35	50	65	60	60
Sweden	95	90	90	65	60	70
West Germany	125	120	125	115	125	150
Other	100	145	150	155	160	220
Near and Middle East	60	60	50	30	30	45
Egypt	30	32	30	7	4	5
Greece	20	20	18	16	20	38
Other	10	8	2	7	6	2
Africa	25	30	35	35	23	20
Ghana	10	12	13	12	6	3
Morocco	14	17	19	19	13	13
Other	1	1	3	4	4	4
Asia	60	80	30	55	52	60
India	5	10	8	10	20	25
Japan	54	66	20	41	25	26
Other	1	4	2	4	7	9
Latin America	....	....	....	....	25	30
Brazil	....	....	....	....	25	30

USSR: Oil Consumption

Million b/d

1970	5.15
1971	5.46
1972	5.92
1973	6.33
1974	6.79
1975	7.20

USSR: Natural Gas Production

	Million cm/d
1970	542.3
1971	581.9
1972	604.9
1973	647.5
1974	713.8
1975	792.6
1st Qtr	793.3
2d Qtr	765.9
3d Qtr	764.1
4th Qtr	847.8
1976	
Jan	871.0
Feb	893.1
Mar	883.9
Apr	870.0
May	839.0
Jun	836.7
Jul	845.2

USSR: Regional Production of Natural Gas

Million cm/d

	1970	1971	1972	1973	1974	1975[1]
Total	542.3	581.9	604.9	647.5	713.8	792.6
Central Asia	131.7	148.1	162.8	196.0	226.0	257.4
Ukrainian SSR	166.8	177.0	184.1	186.6	187.2	188.0
North Caucasus	104.8	99.1	82.1	70.8	68.0	65.1
West Siberia	26.5	26.5	31.1	45.0	67.7	103.0
Komi ASSR	17.0	27.5	36.4	38.2	46.7	48.1
Azerbaydzhan SSR	15.0	15.9	18.7	22.9	24.9	27.2
Urals-Volga and other producing regions in the RSFSR	80.5	87.8	89.7	88.0	93.3	103.8

[1] Preliminary.

USSR: Natural Gas Trade

Million cm/d

	1970	1971	1972	1973	1974	1975
Exports	9.0	12.5	13.9	18.7	38.5	57[1]
Eastern Europe	6.4	8.6	9.4	13.3	23.4	31
Bulgaria	....	....	....	....	0.8	N.A.
Czechoslovakia	3.7	4.5	5.3	6.5	8.9	N.A.
East Germany	....	....	....	2.1	7.9	N.A.
Poland	2.7	4.1	4.1	4.7	5.8	N.A.
Western Europe	2.6	3.9	4.5	5.4	15.1	26
Austria	2.6	3.9	4.5	4.4	5.8	N.A.
Finland	....	....	....	....	1.2	N.A.
Italy	....	....	....	....	2.2	N.A.
West Germany	....	....	....	1.0	5.9	N.A.
Imports	9.7	22.3	30.2	31.3	32.7	34
Afghanistan	7.1	6.9	7.8	7.5	7.8	8
Iran	2.6	15.4	22.4	23.8	24.9	26

[1] Preliminary.

USSR: Consumption of Natural Gas

	Million cm/d
1970	543.0
1971	591.7
1972	621.2
1973	660.1
1974	708.0
1975 (est.)	769.6

Eastern Europe: Oil Production and Consumption

Thousand b/d

	1970	1971	1972	1973	1974	1975
Production	384	393	404	409	417	421
Bulgaria	7	6	5	4	3	3[1]
Czechoslovakia	4	4	4	3	3	3[1]
East Germany	1	1	1	1	1	1
Hungary	39	39	40	40	40	40
Poland	8	8	7	8	11	8
Romania	268	276	283	286	290	292
Yugoslavia	57	59	64	67	69	74
Consumption	1,236	1,385	1,525	1,797	1,822	1,977
Bulgaria	179	208	218	244	262	284[1]
Czechoslovakia	207	236	256	294	308	330[1]
East Germany	191	209	272	293	297	332[1]
Hungary	128	145	163	179	186	204
Poland	170	192	214	266	259	280
Romania	207	227	239	270	276	310[1]
Yugoslavia	154	168	163	251	234	237

[1] Estimated.

Eastern Europe: Oil Trade[1]

Thousand b/d

	1970	1971	1972	1973	1974
Crude Oil					
Imports	879	1,013	1,171	1,401	1,445
USSR	679	800	921	1,044	1,118
OPEC	102	117	107	233	270
Iraq	40	53	28	53	86
Iran	62	64	71	94	63
Algeria	....	....	6	....	5
Libya	....	Negl.	2	....	4
Kuwait	....	....	....	4	....
Other OPEC	....	....	....	82[2]	112[2]
Other Non-OPEC	98	96	143	124	57
Belgium	....	....	....	....	6
West Germany	....	....	....	6	4
Netherlands	....	....	....	....	2
Syria	Negl.	....	7	3	Negl.
France	....	7	1	....	....
Other	98	89	135	115	45
Petroleum products					
Imports	166	152	150	175	176
Bulgaria	58	51	47	47	48
Czechoslovakia	22	20	21	26	27
East Germany	2	4	3	Negl.	2
Hungary	19	15	13	18	17
Poland	48	45	47	62	60
Yugoslavia	17	17	19	22	22
Exports	193	173	200	182	216
Czechoslovakia	15	18	20	13	15
East Germany	19	14	29	29	35
Hungary	17	7	11	10	7
Poland	26	21	34	27	24
Romania	107	107	102	99	130
Yugoslavia	9	6	4	4	5

[1] Crude oil exports are negligible.
[2] Including data that cannot be distributed by country of origin.

Eastern Europe: Natural Gas Production and Consumption

Million cm/d

	1970	1971	1972	1973	1974	1975
Production	101.86	111.93	122.65	134.98	140.20	144.22
Bulgaria	1.30	0.90	0.60	0.61	0.49	0.40[1]
Czechoslovakia	2.22	2.11	1.81	1.73	1.64	1.64
East Germany	3.38	7.67	13.70	19.18	21.92	21.92[1]
Hungary	9.50	10.15	11.26	13.21	13.96	14.24
Poland	14.20	14.75	15.95	16.51	15.72	16.28
Romania	68.58	73.20	75.93	80.10	82.51	85.49[1]
Yugoslavia	2.68	3.15	3.40	3.64	3.96	4.25
Consumption	108.48	120.46	131.74	148.10	161.98	169.13
Bulgaria	1.30	0.90	0.60	0.61	1.33	1.76[1]
Czechoslovakia	5.70	6.32	6.85	7.99	9.01	9.85
East Germany	3.82	7.97	13.70	21.34	29.70	30.95[1]
Hungary	10.05	10.72	11.81	13.76	14.51	14.79
Poland	16.95	18.83	20.06	21.19	21.52	22.57
Romania	68.03	72.65	75.38	79.57	81.95	84.96[1]
Yugoslavia	2.63	3.07	3.34	3.64	3.96	4.25

[1] Estimated.

Eastern Europe: Natural Gas Trade

Million cm/d

	1970	1971	1972	1973	1974	1975
Imports	7.46	9.50	10.02	13.92	22.34	25.44
Bulgaria	....	....	....	....	0.84	1.36
Czechoslovakia	3.72	4.55	5.36	6.53	7.37	8.21
East Germany	0.44	0.30	Negl.	2.16	7.78	9.03
Hungary	0.55	0.57	0.55	0.55	0.55	0.55
Poland	2.75	4.08	4.11	4.68	5.80	6.29
Exports	0.84	0.97	0.93	0.80	0.56	0.53
Czechoslovakia	0.24	0.34	0.32	0.27	Negl.	....
Romania	0.55	0.55	0.55	0.53	0.56	0.53[1]
Yugoslavia	0.05	0.08	0.06	Negl.	....	....
	0.84	0.97	0.93	0.80	0.56	0.53

[1] Estimated.

PRC: Oil Production, Consumption, and Trade

Thousand b/d

1970	1971	1972	1973	1974	1975
		Crude Oil Production			
570	730	860	1,090	1,310	1,620
		Oil Consumption			
500	630	740	920	1,030	N.A.

Oil Trade

	Japan[1]	Philippines[1]	Thailand[1]
Crude Exports			
1973	20	....	....
1974	80	4.66	....
1975	156	10	6.24

	Thailand[1]	North Korea	North Vietnam
Exports of Products			
1970	....	10	20
1971	....	10	20
1972	....	10	20
1973	....	....	....
1974	....	....	....
1975	1.5	....	....

[1] Data represent contracts, not all of which was delivered.

Prospects for Non-OPEC Oil Imports

(By David M. Lindahl* and Clyde Mark**)

INTRODUCTION

One of the most important effects of the Arab Oil embargo of 1973 was the increased awareness in the United States that dependence on foreign producers of oil could have devastating effects on the U.S. economy. That awareness has evolved into resolution to reduce U.S. vulnerability to similar oil cutoffs in the future. Numerous policy options have been proposed and some have been enacted into law. The Energy Policy and Conservation Act of 1975 (P.L. 94–163) requires the establishment of a national strategic petroleum reserve to absorb the supply shocks of another embargo or some other restriction. The amount stored could be as large as one billion barrels and could provide the equivalent of up to six months of oil imports. A program of this type, however, has associated disadvantages including high capital cost of acquisition and storage, reluctance by OPEC exporters to supply oil that might be used to thwart their future actions, and the remote location of the stored oil in salt domes off the Gulf Coast.

An alternative to the stored reserves, or possibly a supplement to it, is the establishment of long-term supply arrangements with non-Arab non-OPEC oil producers. It has been proposed that such a system would save the U.S. great expense because not as many storage facilities would have to be built, even though the oil acquisition cost would probably be at world market levels. The reliability of the supplier, however, would obviously have to be high in order to guarantee a comparable level of security. The following, therefore, is an examination of the prospects for oil exports in non-Arab, non-OPEC countries around the world and a discussion of their inclination to sell their oil exports to the United States on a regular basis.

CANADA

Canada has nearly 10 billion barrels of crude oil reserves. The Athabasca sands contains an additional 250 billion barrels but only a small amount (100,000 b/d) is currently being produced because of technical and economic limitations. Recent developments in Canada's most promising oil areas in the Arctic and off its East Coast have been very disappointing. Because of these and other production problems the Canadian Government has acted to reduce and finally to eliminate exports of oil to the United States in the early 1980's.

In the past, Canada exported oil from its Alberta fields to the Western and upper Midwestern states and used that revenue to subsidize imports to its Maritime Provinces in the East. Canada is constructing a pipeline to serve its eastern consumers with its western production and in March 1973 announced export controls that would prevent oil shipments to the United States after 1982. Oil that in previous years would have been exported to the United States will now be used in Canada. This will substantially reduce Canada's need to import foreign oil, although falling production rates (—12% in 1975, —6% in 1976) may mean that the Alberta fields are nearing exhaustion and that Canada will be a net importer in 1976 rather than an exporter. Production in 1974 was 1.8 million b/d, 1.4 million b/d in 1975, and will probably be less than 1.4 million b/d in 1976. This could lead to a deficit in Canada's 1976 oil trade of as much as $2 billion. Imports in 1976, despite the eastward transfer of 250,000 b/d of western Canadian oil, are expected to average 890,000b/d. While domestic production is declining, demand is expected to rise 17% in 1976 to 1,074,000 b/d.

In October 1973, Canada imposed an export tax on U.S.-bound oil to balance the higher costs of its imports, which amount to half of total consumption in 1975. In November 1974, Canada announced that exports would be reduced in annual increments and ended by 1983. The "Canada first" policy was intended to make Canada self-sufficient, and to end both exports and imports, but that policy currently is being reassessed. It is expected that "self-reliance" may replace "self-sufficiency" as Canada's goal and that Canada may become somewhat more flexible on the export-import question if it can balance its energy budget.

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Unless additional reserves are found soon, Canada's prospects for self sufficiency in oil will soon deteriorate. Total production will probably decline at least until 1985 when oil from the Mackenzie Delta Beaufort Sea region is available to the Canadian market. By 1995 Canadian production could be as high as 3 million b/d. Development of the Athabasca tar sands or discoveries of new reserves in the Canadian Arctic or the Bay of St. Laurence could enable Canada to once again become a major exporter by the late 1990's. Until then Canada is not likely to be a reliable source of oil imports for the United States.

What about recent discoveries in east?

MEXICO

Of all the non-Arab, non-OPEC oil producing states, Mexico offers the greatest potential for oil exports to the United States. The recent discovery of the Reforma field greatly increased proven reserves in Mexico and large additions to those reserves (already larger than the U.S. reserves, excluding Alaska) are considered likely. Potential oil-fields, both on land and offshore, are numerous and Mexico's domestic demand is relatively small. At the time of the Reforma discovery, Mexico was already self-sufficient. The new production, therefore, allowing for domestic demand growth, may well be largely exportable. Pemex, the Mexican national oil company, has said that to maintain a reserves/production ratio of 20:1, 11.5 billion barrels of new reserves will have to be found in the next few years. *The International Petroleum Encyclopedia 1976* reported that "this goal could conceivably be met. Pemex believes, largely depending on three factors: continued success of the present exhaustive exploration program throughout the country, fast development of new fields, and—long range—elimination or drastic reduction of oil exports in an attempt to stretch available reserves."

Mexico increased its oil production 66% between 1971 and 1975 and that upward trend seems likely to permit increased oil exports. Mexico currently exports about 130,000 b/d to the United States, Uruguay, Brazil, and Israel. Pemex, however, has indicated its intention to eventually eliminate crude oil exports in favor of refined product sales in the international market. If Mexican oilfields other than Reforma prove to be short-lived and if domestic demand continues to rise, Mexico could cease to be an exporter as early as 1982. To prevent that occurrence, Pemex plans to add 20 rigs each year to the 138 currently working in order to drill 200 exploratory wells per year, an extraordinarily high number. Future export volume will also depend upon Mexico's need for foreign exchange, which is currently high, and the size of its oil reserves, which are not yet fully known. It is possible, however, that exports could be as high as 500,000 b/d by 1981 if Mexican oil developments are as successful as Pemex expects.

Mexico's oil export policy is important not only for its own oil industry but for the influence it may have on other oil producing states. Future membership in OPEC is a case in point. Beginning in 1974, Mexican officials suggested that the country would join OPEC, at least as an observer. In May 1975, President Echeverria stated that Mexico would become a full member of OPEC. But since then, the policy has apparently changed with Mexico now saying it would not join OPEC, although it would continue to follow OPEC prices. Whether or not the Mexican decision to remain outside of OPEC will have an effect on other potential members such as Peru or Trinidad and Tobago, for example, is difficult to determine. It is worth noting, however, that Mexico, in the past, has been a policy leader in international oil and that it will probably remain one. More importantly to the United States, it is likely to be the most promising new source of foreign oil for the remainder of the century.

TRINIDAD AND TOBAGO

Trinidad has large enough reserves (2.5 billion barrels) to be an oil exporter for many years. Even though Trinidad and Tobago's 1975 production of 210,526 b/d exceeded its needs of 62,000 b/d, it also imported oil for refining and eventual export. It imports heavy and sour crudes from foreign sources, primarily Saudi Arabia, Iran, and Indonesia, for its two major refineries (one owned by the Government, the other by Texaco) and exports the product, mainly to the United States. It also exports its own domestic production, mostly as crude oil which is valued because of its low sulfur content. Most production increases have

occurred offshore. Most of these fields are considered "major discoveries", but development has been delayed by technical problems.

The country is trying to increase its production of oil, and consequently its exports. Because oil is Trinidad and Tobago's most important industry, because oil provides the largest source of reserve to its treasury, and because it provides the "seed money" for other development projects, it is doubtful if the country will reverse its export policy. The heavy emphasis placed by the Government on energy related developments such as steel, fertilizer, cement, and petrochemicals, plus limits on production capacity may prevent exports from rising above the present level of 150,000 b/d.

GUATEMALA

Nearby production north of the border in Mexico's Reforma District and early exploration efforts indicate that Guatemala could in time become Central America's second oil-producing nation after Mexico. The large Reforma fields are on the same geologic trend and appear to indicate potentially large reserves, although they have not yet been proven. Guatemala currently has no significant domestic production but its government is anxious to exploit its natural resources. The inaccessibility of the area, however, will hinder significant development for at least several years. It is expected to grant 14 concessions of a million acres each in the near future to replace the present service contracts which have caused considerable confusion because of overlapping areas. Political stability and a growing economy seem to favor investment in Guatemala's petroleum industry.

Until its reserves are developed, Guatemala will not be able to meet its domestic demand of 20,000 b/d. The country has been spending $120 million per year of imported oil, severely straining its economy. The government is anxious to maximize its oil revenues, and if reserves are large enough Guatemala could become a significant crude oil exporter by 1980. This would be particularly advantageous to the United States because Guatemala's Caribbean export terminal is only 1,250 miles from the refining and petrochemical complexes around Houston. In addition, the country has historically been friendly to the United States. Estimates of possible exports on the order of 100,000 b/d could be possible as early as 1980 if reserves prove to be large and if development soon takes place.

PERU

Peru has relatively modest oil reserves of 2.5 billion barrels. In the early 1970's, Peru had great hopes of becoming a major oil exporter and expected its Amazon Basin to produce as much as 500,000 b/d. Enough oil was found to build a major pipeline 852 kilometers across the Andes to the Peruvian coast. When completed in 1977 at the cost of $1 billion, it will be able to carry up to 500,000 b/d, if production reaches that level.

Discoveries so far have not matched expectations, however, and the current estimate of oil production potential for the Peruvian Amazon Basin in 1980 is only 130,000 b/d. This has forced changes in export contracts with financial backers of the pipeline, particularly Japan, to the dismay of the Peruvian Government. Because of the disappointments, many of the service contractors left Peru, although additional exploratory work is still planned by those remaining. Even though the exploration results in the Amazon were poor, the new oil will restore Peru's energy self-sufficiency for the first time since 1933. Offshore production has been modest (30,000 b/d), but improvement appears possible based on the general attractiveness of the Peruvian Continental Shelf. Peru will probably be an exporter, but of amounts much less than those anticipated a few years ago. Exports are not likely to exceed 100,000 b/d for at least the next five years.

COLOMBIA

Colombia's reserves are estimated at 900 million barrels. Colombia has several favorable geological prospects for new oil finds, but exploration has been limited because of the low government-controlled prices of domestically produced petroleum. Colombia hopes to increase wildcat drilling by a factor of eight and to have 800 exploratory wells drilled within ten years. To encourage development, operators are being offered 60–40% service contracts, which are more favorable to the operators than those that existed before the change in oil policy. Several important discoveries have been made recently and self-sufficiency may be achieved within ten years, but the prospects of significant exports during the same period appear limited.

Colombia's domestic oil production has been declining in recent years, although Colombia is still close to being self-sufficient (95% of 1974 demand was met with domestic production). Three years ago, it was an oil exporter, but its imports have increased since then. Some projections have placed crude oil production as low as 75,000 b/d by 1985 (compared to 166,000 b/d in 1975) if no new reserves are found. Demand is expected to climb to 265,000 b/d by 1985. which would produce a deficit of 190,000 b/d.

All oil producers in Colombia are required by law to sell their output at unrealistically low prices (the retail price of gasoline is 13¢/gal.), which provide the producer little or no profit for reinvestment. Consumer prices in Colombia are still the lowest in the world, despite recent price increases by the Government. In August 1975, Colombian oil selling for $1.64/bbl was increased to $3.50/bbl for old oil and $5.50–7.00 for new oil. Planned increases in wellhead prices, moreover, are expected to bring Colombian prices into line with world prices by 1978. By relaxing oil price controls, the Colombian Government hopes to encourage foreign oil companies to increase exploration for new reserves and to develop existing fields.

Brazil has several areas that appear to have the potential to produce oil. Most of these have not yet been developed because of limited accessibility in the Amazon Basin and offshore and because the Brazilian Petroleum Law of 1954 excluded private capital in Brazilian exploration and production operations. The law, which assigned full ownership of the country's oil to Petrobas, the state-owned oil company, was modified in October 1975 to authorize Petrobas to seek service contracts with foreign companies. These will be the risk-bearing type in which the contractors pay all costs and can recover them if commercial production, as defined by Petrobas, is established. Brazil changed its policy in the hope that enough new oil would be discovered and eventually produced to make the country self-sufficient by the end of the decade.

BRAZIL

The Brazilian Government has placed a high priority on increasing domestic production in order to reduce the need for oil imports, which will cost Brazil an estimated $4 billion in 1976. Internal consumption in Brazil is expected to exceed 850,000 b/d in 1976, while production may reach only 174,000 b/d. In 1975 consumption rose by 10% and imports by 13% and it will probably be several years before that trend can be reversed. Because of its large population (100 million) and limited production, it will probably be at least a decade before Brazil can expect to become self-sufficient. Production by 1980 is not likely to exceed 350,000 b/d, although a major effort might achieve an output in the range of 500,000–700,000 b/d. By then, however, demand is expected to have risen to 1.3 million b/d, leaving a deficit of at least 600,000 b/d in the most optimistic case. It is unlikely, therefore, that Brazil will soon be an oil exporter.

ARGENTINA

Argentina is not yet an oil exporter, and it does not expect to be energy self-sufficient until 1980. The prospects in Argentina on-shore and off its coast are considered promising and secondary recovery efforts on land are likely to significantly increase production. Last year a new onshore oil province was discovered which the Government claimed could, when fully developed, eliminate Argentina's costly oil imports ($400 million in 1975).

The government-owned oil industry has begun both short-term and long-term exploration programs for new reserves. A five-year program to find new reserves in pospective onshore areas has been initiated. A longer range effort is being directed at the offshore areas of greatest potential. The U.S. Geological Survey has estimated that the continental shelf off southern Argentina and around the Falkland Islands could contain 40–200 billion barrels of potentially recoverable oil. The most immediate offshore prospect, however, appears to be near the island of Tierra del Fuego at the southern tip of Argentina. The Argentine Government would like to develop the shelf area around the Falkland Islands, which are claimed by Argentina but are held by the British. To avoid a sovereignty dispute with Argentina, Britain has refused to grant exploration concessions in the area, even though they too would like to see it developed.

Argentina is currently 85% self-sufficient, but new discoveries, particularly offshore, should offset declining production onshore during the next several years.

Argentina has not indicated whether or not it would permit exports of oil if its production exceeds its needs. For Argentina to become a major exporter would require additions to its present proven reesrves, but the potential does exist, even in the short-term, for modest exports. Argentina's immediate goal, however, is to become self-sufficient in oil.

In the past, Argentina's state owned oil company, Yacimientos Petroliferos Fiscales (YPF), dominated the country's oil industry. But the energy statement issued by the Government in April 1976 modified that policy and, in effect, invited foreign oil companies to join in prospecting for new oil reserves. If Argentina's realistic policy is to seek self-sufficiency with the assistance of foreign oil companies, there is also a bit of fantasy in the hope that early predictions of vast oil reserves on Argentina's outer continental shelf will prove true, and that Argentina will become "another Saudi-Arabia." If the offshore deposits materialize, Argentina could become a major exporter, but that possibility remains a matter of conjecture. Continued political instability may also result in unexpected changes in Argentina's oil policy.

BOLIVIA

It is the policy of the Bolivian Government to continue encouraging exports, although exports have declined in recent years because of rising domestic consumption, falling reserves, and declining production. The Government is pursuing an active exploration program, using service contracts to bring in foreign oil companies, in the hope that new discoveries will allow export levels to quadruple in the next ten years. Bolivia also has large reserves of natural gas which have not yet been developed because of the lack of a domestic market and export facilities. The relationship between the Government and the foreign operators remains uncertain because of the still unresolved compensation problem stemming from the Gulf Oil Company nationalization of 1969 and the 1975 oil-bribery scandals.

In 1975, Bolivia produced an average of 42,000 d/d, half of which was exported. The 1975 production was 11.6% less than the 1974 level. Although the Bolivian Government has set a production goal of 200,000 b/d by 1980, realization of even half that amount is considered optimistic. Nearly all of the additional oil, if it is in fact produced, would probably be available for export. If the production goal is reached, as much as 150,000 b/d of Bolivian crude could be available to the U.S. market by 1980, but that possibility must be regarded as remote.

UNITED KINGDOM

North Sea oil is now being brought ashore in the United Kingdom and will certainly ease its oil import problems. The United Kingdom, as a densely populated and industrial nation, has long been totally dependent on foreign oil to meet its domestic needs. Whether or not U K reserves in the North Sea and Irish Sea will be sufficient to permit it to become energy independent or even a net energy exporter remains uncertain. Oil reserve figures have changed rapidly in recent years, with some estimates of the U K 's recoverable oil as high as 30 billion barrels in the North Sea and another 10 billion barrels in other areas of the U K's continental shelf. *World Oil* has estimated that if maximum offshore reserve estimates were realized, daily production could be twice as great as domestic demand. Production is expected to reach 250,000 b/d in 1976 and may rise to 2.4 million b/d by 1981, which would be slightly above projected domestic demand for that year.

The Minister of Energy stated in November 1974 that Britain intended to bring the North Sea fields on stream quickly but would set production ceilings in the 1980's about equal to Britain's projected domestic needs. Other policy decisions also may hamper future exports. All North Sea crude must be landed in Britain for transhipment to foreign ports, and extra freight and landing costs will make British oil more expensive than Middle Eastern crude landed on the Continent. Two-thirds of the North Sea production must be refined in Britain, but it is not certain if British refiners can compete successfully with continental refiner. In addition, opposition from the Scottish Nationalistic Party, could make it difficult for the Government to allow production at that rate unless even more sizeable deposits are found. If the United Kingdom does develop surplus production for export, it would likely be sent to its partners in the Common Market rather than the United States.

North Sea operators were encouraged by the Ministry of Energy approval of British Petroleum's request to export oil to West Germany in May 1976 because the clearance suggested a liberal export policy. The operators, however, also saw the approval action as a possible precedent for future Government denials of exports. BP voluntarily submitted the export request for Government approval, and the operators fear that the Government may assume a prerogative to control exports.

NORWAY

Norway has at least 7 billion barrels of proven reserves but unofficials estimates exceed 100 billion barrels. Before 1970, when the large Ekofisk field was discovered, Norway had no oil reserves or production. Since then several large discoveries have made Norway a significant producer and have given it substantial export potential. In response to a general fear that North Sea oil development could bring unnecessary spending programs, invasions of foreigners, socially unbalancing welfare programs, unnatural alliances, squandered wealth, pollution of the fishing areas or other potential problems, the Government adopted a "Norway first" policy of limiting offshore activity to protect the domestci economy. For example, no exploration was allowed north of the 62nd parallel to prevent harm to the fishing grounds. The "go slow" policy has been under attack from some oil operators because they fear that Government-imposed production ceilings, combined with increased costs attributed to planning delays, may curtail Norwegian North Sea development. The Government policy may be subject to change, however, as illustrated by the recent decision to reconsider the 62nd parallel ban.

Production in 1975 averaged 189,000 b/d and ranged as high as 200,000 b/d. Published target production goals are currently set at 90 million tons of oil equivalent per year by 1980 (about 1,5000,000 bpd). But with pressure mounting from internal and external economic communities to make huge reserves in the north available; with pipelines soon to be radiating outward to several countries from Norwegian fields; and with the U.S.S.R. eyeing the potentially rich Barents Sea, Norway may not be able to maintain its conservative policies for long. Exploration to date has thoroughly evaluated about one-fourth of the area south of the 62nd parallel, perhaps only 5% of the total Norwegian shelf. The success ratio has been very high for nearly all areas explored.

Officials have said that $10 billion will be needed to put known fields into production and a similar amount would be required for new fields found up to 1980. The need for both capital and expertise is the primary reason private companies are invited to participate in Norway's offshore development, but strict state control is practiced in all activities.

It is impossible to anticipate precisely the amount of Norwegian oil that might be available for export over the next five years. Restrictive Government policies to conserve reserves over a long period may leave little for export. If reserves continue to grow, however, some will almost certainly be exported. Most of this oil will very likely be sent to other West European countries at prevailing world market prices. Conceivably, some may be available to the United States, although because of export priorities it is doubtful if that amount could reach 300,000 b/d by 1982.

SOVIET UNION

Of all the non-Arab, non-OPEC oil producers, the USSR is the largest in terms of both reserves and production. Its reserves are estimated to be over 80 billion barrels, more than twice U.S. reserves, including Alaska. Production exceeds that even of Saudi Arabia and has long since passed the declining level of production in the United States. Production in 1976 is expected to reach 10.4 million b/d a 6% increase over the previous year. It is widely believed, however, that the Soviet Union will not be able to maintain its production growth rate unless new reserves are proven. The goal of 12.4–12.8 million b/d of crude plus condensate by 1980 may be met if annual gains of 500,000 b/d can be realized. To maintain those rates into the 1980's will require discovery of another major oil-producing province comparable in size to Western Siberia. Production from many older fields is declining and importers of Soviet oil have been warned not to expect increases in oil deliveries that match those of recent years. The Soviet Union has other fields which have not yet been explored but which have great potential. Soviet oil production, therefore, is likely to grow during the next five years although at a slower rate than during the last five years.

The Soviets have in the past exported small amounts of oil in partial payment for wheat imported from the United States. Whether or not Soviet oil production will be large enough to fulfill its own domestic requirements plus those of Eastern Europe and to simultaneously produce a large exportable surplus is unknown. If such exports were available, it is by no means certain that the USSR would sell them to the United States. Furthermore, reliance on Soviet oil would probably produce greater strategic and political problems than would increased imports of OPEC oil.

Future Soviet export policy may depend upon answers to two primary questions: (1) will the Soviets limit exports to Eastern European states in order to expand exports to non-bloc countries? and (2) will the Soviet Union exchange oil for the Western-Japanese technology and capital needed to develop the Siberian fields?

If the Siberian fields are not developed, the Soviet Union either can limit its exports to its available surplus production, or it can import oil from other sources such as Iraq or Iran for re-export. With either choice, the Soviets must decide (1) to continue to supply their Eastern European allies at increasing levels that will cut possible exports to non-bloc buyers or (2) to limit exports to Eastern Europe in order to sell the extra oil to the West. Oil sales to non-bloc countries could earn foreign exchange and political leverage but could create dissatisfaction among Soviet allies.

If the Siberian fields are developed, the Soviets could export oil to its allies as well as other buyers, but developing the Arctic and offshore fields will involve high costs and risks. Apparently, the Soviets currently lack the technology and capital needed to attempt a development project of this magnitude. Foreign oil companies—Japanese, American, French, and others—could provide the money, equipment, and expertise, but they would probably expect a share of the oil and a return on their investment. Exploration conducted by foreign scientists might reveal more about Soviet resources than the Soviets would care to have known, and the presence of foreign capitalists might not fit the image the Soviet wish to project to the Third World.

PEOPLE'S REPUBLIC OF CHINA

Probably less is known of the oil reserves and production of the PRC than of any other country of the world. Estimates of proven, recoverable reserves are believed to be about 20 billion barrels, although future discoveries are likely to at least double that amount. The major exploration emphasis in the PRC is on the East Coast and offshore where major finds have been made. Large oil deposits are believed to exist in the Yellow Sea, but little development has taken place there because the ownership of the seabed has not been resolved with Japan, the Philippines, and Vietnam. It is unlikely that those offshore areas that are claimed by more than one country will be developed in the near future.

Production is believed to have risen from 600,000 b/d in 1970 to 1.6 million b/d in 1975. There are nearly 100 producing oil fields in the PRC, the largest of which are in Manchuria. Other smaller fields are found in six sedimentary basins. Most of the fields in the interior are small and their production tends to be used locally.

The PRC does export some oil (about 200,000 b/d), most of which goes to customers in Japan, Thailand, and the Philippines. Whether or not the PRC will be able to produce enough oil to meet its own rapidly increasing domestic demand and to export enough oil to provide badly needed foreign currency cannot yet be determined. Some observes such as Park in *Energy Policies of China* estimate that 1980 production could be four to eight times as great as 1973 production. If that were the case, it is possible that the PRC could become a major exporter, even though extensive exports to the United States would pose serious strategic and political problems for both countries. Production on that scale, even if possible physically, would probably not be permitted by the Government in the interest of conservation. Production probably would not be permitted to exceed the amount needed domestically plus enough for export oil to provide capital to offset Chinese imports. Given these limitations, the PRC exports of oil to the United States are highly unlikely during the next five years.

China is bartering its oil, as in the recently reported oil-for-rice agreement with Thailand and the oil-for-steel and oil drilling equipment deals with Japan. According to other reports, these barter arrangements are being reconsidered because the high wax content of the Chinese oil is producing refining problems. The *Petroleum Economist* has stated that the PRC has asked U.S., Australian,

and West German oil companies to provide technical assistance for its oil production operations, but this has not been confirmed.

BRUNEI

Most of the production and exploration activity is offshore with remaining crude reserves estimated at 2 billion barrels and cumulative production at 1.23 billion barrels. Oil production in Brunei averaged 181,000 b/d in 1975 (down 6.4% from 1974), but it is expected to expand significantly in the next few years. Brunei Shell Petroleum, a Royal Dutch/Shell subsidiary, is maintaining an exploration and development drilling program to increase production to 500,000 b/d. Within five years Brunei may be capable of exporting up to 400,000 b/d. Eventually, exports could exceed that figure, if new reserves are found. Most of the exports have gone to Japan because of the proximity of that market and will probably continue to do so.

Under an agreement signed in 1971, Britain has been responsible for conducting the foreign affairs of its former colony, the Sultanate of Brunei. The Government of Brunei controls all internal matters, including the production and export of oil. There is no evidence to suggest that British influence in Brunei precludes membership in OPEC at some future date, but neither is there evidence to suggest that Brunei wants to join OPEC.

Oil is Brunei's major export item and foreign-exchange earner, and it is unlikely that Brunei would adopt any course of action that would jeopardize its primary source of revenue. Brunei follows OPEC pricing policies, and recently signed a participation agreement with Shell, Brunei's largest operator, which parallels OPEC participation agreements. The agreements gave Brunei a 25% interest in Brunei Shell's operations. The Government is encouraging expansion of its oil industry and expansion of exports. Most of Brunei's oil exports have gone to Japan, Hong Kong, Singapore, and Taiwan because of the proximity of those markets. That trend will probably continue.

MALAYSIA

Oil prospects have been found that may increase in Malaysian crude reserves to 2.5 billion barrels. In particular, the recently-discovered Takua field off the coast of Sarawak has potential, and twelve production wells are planned. Significant gas reserves have been found and plans to export LNG to Japan by 1980 have been discussed. Proposed developments off the east coast of peninsular Malaysia and off the coast of Sabah and Sarawak could make the country the second largest producer in Southeast Asia. Malaysia produced 98,000 b/d in 1975, an increase of 21% over 1974, but that amount was short of demand. Malaysia is, therefore, not yet a net exporter. The Government has published production goals of 200,000 b/d by 1977 and 450,000 b/d by 1980. All of Malaysia's oil exports go to Japan, the Philippines, Thailand, Taiwan, and Singapore. Little of Malaysia's future oil exports are expected to be sent to the United States during the next five years because of the strong demand in nearby markets.

Companies have operated under concession agreements, knowing that the state would eventually initiate Indonesia-type sharing contracts. The 1974 Petroleum Development Act provided for this changeover, with the formation of Petroleum Nasional Berhad (Petronas). The new company was given ownership of all Malaysian petroleum and charged with implementing production sharing contracts with existing operators and granting new licenses to some 40 applicants. Outside assistance was solicited and IFP (Institute Francais du Petrole) started a survey of offshore blocks to establish size and allocation procedures.

Petronas has taken control from the country's own 13 states, primarily Sarawak and Sabah. But real problems developed with foreign companies when an amendment was proposed to the new act to give Petronas added power to control management of downstream operations including exploration, refining, marketing, and distribution. No contracts have been offered and consequently, several companies halted further exploration activities. New terms may include service contracts rather than production sharing and would be serious disincentives to further exploration. Interim agreements signed in November 1975 by Shell and Texaco authorized a 92.5/7.5 production revenue split in favor of the Government, plus operating costs.

ANGOLA—CABINDA

The estimated reserve of 1.3 billion barrels, which may be augmented by potential new discoveries, could permit oil exports indefinitely at the current rate. Most of Angola's' oil reserves are located in the enclave of Cabinda, which produces about 150,000 b/d both onshore and offshore. Another 25,000 b/d is produced onshore in Angola, and there are prospects that could support increased production there.

Because of U.S. support of the defeated faction in the recent civil war in Angola, however, future exports to the United States must be considered uncertain. Gulf shut down its Cabinda operations in December 1975, reportedly at the suggestion of the U.S. State Department, and suspended its monthly payment of $1.5 million (half of Angola's foreign exchange). Gulf resumed its operations in May, of 1976, but there is some concern that the oil industry, particularly the large Gulf operation, might be nationalized by the Popular Movement for the Liberation of Angola (MPLA). Several companies have already relinquished their concessions in Angola. According to reports, Gulf and the MPLA Government are negotiating price, production levels, majority participation, and other matters. Apparently the MPLA will encourage increased production and exports, at least for the short term, because it needs the oil revenue, which constitutes half of Angola's foreign exchange.

CONGO REPUBLIC

The oil reserves of the Congo Republic are estimated to be approximately six billion barrels. Production has been minimal, but significant production is possible in the near future. Production schedules have not yet been finalized, but at peak production, the flow could be more than 150,000 b/d, possibly as early as 1977. Development so far had been disappointing and production has been only half of the expected level due to technical problems resulting from the complex geologic structure of the fields. In 1975, production dropped to 38,000 b/d from the 1974 level, 47,000 b/d.

If an exportable surplus is developed, its availability for shipment to the United States would be uncertain because of the generally procommunist Government of the Congo Republic. It is, however, encouraging increased exports, and may be willing to engage in oil trade with the United States. Recently, the Government of the Congo Republic created a regulatory agency which will establish and monitor production rates for foreign operators for the purpose of exporting more oil. The Congo Republic generally follows OPEC leads in pricing and, according to reports, has expressed interest in joining OPEC.

POTENTIAL SOURCES FOR OIL IMPORTS

Country	Estimated reserves (1,000 bbl)	1975 oil production (barrels per day)	1975 oil demand (barrels per day)	Production demand ratio	Maximum export potential by 1981 (barrels per day)
Canada	9,400,000	1,444,000	1,842,000	0.78	Negligible
Mexico	25,775,000	705,000	662,000	1.06	500,000
Trinidad and Tobago	2,500,000	210,526	62,000	3.40	150,000
Guatemala			20,000		100,000
Peru	2,500,000	73,000	125,000	.58	100,000
Colombia	900,000	160,000	189,000	.85	Negligible
Brazil	782,800	174,000	780,000	.22	Negligible
Argentina	2,465,000	387,000	495,000	.78	Negligible
Bolivia	235,000	42,000			150,000
United Kingdom	19,400,000	12,000	1,827,000	.01	120,000
Norway	7,000,000	189,000	155,000	1.22	1,300,000
Soviet Union	80,400,000	9,820,000	7,426,000	1.32	3,000,000
Peoples Republic of China	20,000,000	1,600,000	1,080,000	1.48	500,000
Brunei-Malaysia	4,500,000	279,000	318,000	.88	150,000
Angola-Cabinda	1,300,000	166,000	18,000	9.22	200,000
Congo Republic	4,875,000	38,000			150,000
Total	182,032,800	15,299,526	14,999,000	1.02	6,420,000

Source: International Petroleum Encyclopedia 1976. World Oil, Aug. 15, 1976. International Oil Developments, CIA Statistical Survey, Apr. 8, 1976.

SUMMARY

Although the foregoing discussion indicates that as much as 6,420,000 b/d might be available within 10 years for export from the countries listed, the actual amount could be considerably less. It is also significant that well over half of the maximum amount is expected to originate in communist-controlled countries, particularly the Soviet Union and the Peoples Republic of China. The projected production in the non-communist countries is close to 3 million b/d, but that amount must be considered optimistic and probably would not be fully realized within five years, if at all. Certainly not all of that production, even under the best of circumstances, would go to the United States. Many of the potential suppliers have customers that would be given first priority. Mexico, for example, has already announced that it would meet Latin American demands before it would consider exports to the United States. Similarly, Norway is likely to export its oil surpluses to other West European countries. The communist countries, for obvious political reasons, cannot be considered reliable sources of oil for the United States, certainly not in lieu of stored reserves.

Another important consideration is that the oil export policies of countries may change as their production increases. It would not be unusual for a country, once its exports reached a significant level, to join OPEC, or at least to follow its pricing and production policies. These countries, therefore, can be expected to maximize their own interests rather than those of the United States, and in some cases this may reduce their reliability as oil suppliers to the United States.

Latin America is likely to be the most prolific and the most reliable source of U.S. oil imports other than OPEC. Because of the oil shortage in many Latin American countries, whose demands would probably be met first, there may not be much left for export to the United States. The rapid industrial development of Mexico, Argentina, and Brazil is likely to add additional demand that would further reduce the amount remaining for export. In addition, it may not be feasible for the United States to plan on a certain level of imports from certain Latin American countries because the possibility of drastic policy fluctuations resulting from rapid changes in their Governments. Mexico, because of its close proximity to the United States, large reserves, and stable government, is perhaps our single most promising non-OPEC source. The level of imports that could be expected from Mexico cannot be realistically determined at this time, but will almost certainly be less, probably considerably less, than 500,000 b/d by 1981.

Overall it seems unlikely that imports from non-OPEC sources could exceed one million b/d by 1981. Even that amount would require a generally favorably export policy on the part of the producing countries. It does not appear likely that all non-OPEC producers would simultaneously refuse to sell oil to the United States. There is, therefore, a minimal level of perhaps several hundred thousand b/d that could be considered certain, although the mix of countries willing to supply the United States might vary with time. Imports from these countries will certainly be a useful supplement to U.S. oil supplies, but at best they can be relied upon for only a fraction of the total imports needed. To the extent that their exports are available, the need for a comparable amount of stored reserves could be reduced, although the amount likely to be available is not likely to be sufficient to offset the need for such reserves.

Oil Import Quota Auctions

(By M. A. Adelman*)

Follow this scenario, and the chances are that the power of the oil cartel will be checked and the price of imported oil will come down.

The United States, acting alone, can disrupt the cartel of the oil-producing governments and bring down the price it pays for imported crude oil.

This would be a drastic policy change. From early 1970 to the end of 1973, our government helped and encouraged the cartel. After the price exploded to about $7.00 per barrel, the Administration began making faces, wagging fingers, striking attitudes, and warning in heavy tones that someone might go too far. The late King Faisal is said to have been a dour man, but surely we succeeded in making

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him laugh. In September 1974 our policy was summed up perfectly: while Secretary Kissinger made a "tough" speech in New York and President Ford made a "tough" speech in Detroit, Federal Energy Administrator John Sawhill was asked what plans there were for getting the world price down. He replied there were none. Mr. Kissinger was angry and Mr. Sawhill was fired. By November 1974 the price was up to $10.50 per barrel and is now $11.50. It will be raised again when economic conditions improve.

A monopoly of sovereign states is unrestrained by competition or by any law. They cannot be held to any contract. Shouting or cooing at them deserves and gets only their contempt. An agreement would tie our hands, not theirs.

What we should do is put a limit on U.S. oil imports and sell import entitlements (or quota tickets) at public auction by sealed bids. This would at least contain the cartel and would probably do it heavy damage. The cartel has maintained a remarkable discipline by using the oil companies to limit output, share markets, and let everyone check on everyone else. We can prevent this use of the oil companies without even slightly hampering either their operations or the continuing flow of oil.

The auction system should not be used to reduce oil consumption, or even to reduce imports. For by reducing imports we would lessen supply and eventually raise prices. In this case, the temptation would be strong to allocate or ration the limited imports, thus increasing the burden by trying to hide it. Indeed the main benefit of quota tickets is a lower import cost of oil, although limiting imports can also provide security for investment in the production of domestic fossil fuels and nuclear power.

HOW TO LIMIT IMPORTS WITHOUT A SHORTAGE

The scheme would have to start small in order to establish an efficient routine quickly. Imports should be set at a level equal to what importers would demand at existing prices, with a mandate that the level of imports permitted should not create scarcity in the United States. The control lever would be a careful watch on inventories.

At the end of June 1975, stocks of crude oil and products totaled 1,071 million barrel and covered 69 days' consumption and 198 days' imports. Only a minor fraction of stocks are actually available to cover fluctuations in demand, but that fraction provides us with plenty of room to correct mistakes.

For example, suppose that the Federal Energy Administration (FEA) estimates that demand for imports next month will equal imports a year ago plus an expected 4 percent growth factor. Suppose they have underestimated badly, that demand for imports is really up 10 percent. Then the error would be 6 percent of imports, about 0.3 million barrels a day or 10 million barrels in a month. Stocks would be drawn down by 1 percent. The next month the FEA could raise the import allocation to bring the stocks back up.

The state of Texas (with a little help from Louisiana) used this system for many years. Its task was much more demanding, since it had to control nearly two-thirds of the output east of California, and mistakes therefore had a much bigger impact. Even those who (like myself) questioned the policy, never doubted that it was efficiently carried out.

Frequent auctions—say, once a month—would prevent accumulated surpluses or deficits. They would also help to avoid the disruption of oil trade logistics, and would counter cartel power.

PROTECTION OF DOMESTIC FOSSIL FUELS AND NUCLEAR POWER

Current high oil prices are a strong incentive to expand domestic energy sources, but the incentive is diluted by uncertainty over cartel behavior. We are getting the worst of both worlds—high prices and lagging investment. Let us say that a proposed project can just about return a satisfactory profit at today's prices, allowing for the usual risks. But then, if the investors know there is a nonnegligible chance that the cartel will deliberately cut prices to destroy competition, the investment will not be made.

A tariff, on the other hand, would raise prices and damage the economy, but it would not protect us. The big Persian Gulf producer countries have such low costs that they can absorb any tariff. Worse yet, they could by prearrangement step up imports into the United States, despite the tariff, to undermine domestic prices. Even if a tariff were effective we would not be able to determine how much additional domestic output would be forthcoming at any given price.

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Therefore we would incur heavy costs without even knowing what we were getting in return.

By contrast, a limit on imports, set at a level where it will not affect the import price, is standing notice that there is an unlimited market for domestic energy sources if the price can be met. For example, if domestic oil production ceases to decline and starts to grow, excess inventories will accumulate. Then imports must be cut. It is always imports which must move over to accommodate the domestic industry.

In effect, we would be giving an unlimited guaranteed market to domestic energy industries. They could not be undersold by any special price cuts. Of course, if there were a worldwide price reduction, some backstop measure, such as setting an upper limit to imports, might have to be taken. That might force the domestic price above the world price—but it would win us security. Still, as we shall proceed to show, even the higher domestic price could be offset by higher government revenues.

WEAKENING THE CARTEL

If for any reason the cartel broke up today it would reconstitute itself tomorrow. The most strenuous, violent efforts would be made to put it together again. Instead of talking about "destroying" the cartel, we should take measures to contain or damage it. If we need a metaphor, it should be severe erosion, not collapse.

A cartel's weak point is excess capacity. The classic breakdown sequence is: (1) incremental sales at less than the collusive price, with incremental revenues for the cheaters; (2) matching of price cuts, with the bigger cartelists, reluctant to cut, losing market shares to the smaller; (3) accusations, confrontations, and then (4) renewed agreements among the cartelists, but with mutual suspicion and readiness to retaliate. The cycle may be repeated many times before cheating through flagrant price cuts begins to accelerate, and dumping today looks better than bigger losses tomorrow. Then comes a stampede to the exit.

The Administration's program to reduce consumption in the United States cannot even annoy the cartel. At heavy cost, reduced oil consumption can increase excess capacity only slightly, with no effect. Since the end of 1973, cartel excess capacity has rapidly built up to about 10 million barrels daily, a third of production. In the spring, it was about 12 million barrels a day. Yet over this very period the price has not only failed to decline but has actually risen from about $7.00 or $8.00 to $11.50. Excess capacity by itself will not bring down the price or curb the cartel. An additional 2 or 3 million barrels a day is a normal mild fluctuation. But a large excess is a lever if we have the will to use it.

The cartel has been able to solve the classic problem of limiting production and dividing markets. The producing countries transfer the great bulk of their oil at their fixed price through integrated oil companies which refrain from collusion. (Company collusion has been an influential myth hiding the real source of market power, government collusion.) Each company sells all it can and produces only what it can sell. The companies cannot compete by offering lower prices, because their margins are too narrow, roughly 2 to 3 percent of crude oil prices. The market share of each exporting government depends on what its resident companies can sell. It is a somewhat haphazard system, but it works, so long as the governments accept these market shares and do not sell large amounts directly. Hence, despite "participation" and "nationaliization," they continue to sell through the companies. But we can remove the companies from the crude oil marketing process, leaving them in place to produce, transport, refine, and sell products. It would force governments to compete with each other in the American market.

PHASE 1: GETTING STARTED

The first object should be to let the oil trade make the quota auction system a matter of routine. Our motto should be: Start small. The number of tickets issued would be approximately equal to the amount desired, at current prices. Therefore the tickets would have no scarcity value—but only a small convenience or insurance value—since importers and exporters would have to possess tickets to stay in business. Hence there would be enough demand for tickets, and enough oil supply, to meet consumer demand. On each transaction, the importer and supplier would decide who was to bid for how many tickets. They could offer only a few cents per barrel.

Tickets should be sold monthly. I suggest that half of them be valid for the month after the auction, the other half asorted among validity periods of three, six, and twelve months. Proportions could be changed later, after public hearings, to suit the convenience of refiners and distributors. Quota tickets should be freely transferable, like stock certificates, recording the name of each transferee and also informing the selling agent, the U.S. Treasury, to prevent counterfeiting. An active resale market in tickets should be encouraged, perhaps by maintaining a public computer file of all wishing to buy or sell tickets.

In any given month, the oil trade could use not only the tickets covering that month's demand, but also the stock of tickets valid for future use. This would permit flexibility in planning, and commitments for months or even years ahead, as long as the system was expected to last. Nobody would ever need to slow down operations for lack of tickets. The value of tickets would also be kept very low during the phase-in period. The producing governments would ignore the auction system, since there would be nothing they could or needed to do about it. Oil would be lifted and sold as before.

PHASE 2: THE EXPORTING GOVERNMENTS ARE FORCED INTO THE ACT

Once the quota auction system was running smoothly, we would have created a market where the cartelist governments could cheat to gain incremental revenues by selling behind each other's backs, each knowing that others might be selling it out.

The secrecy would be achieved by letting *anybody* bid, with no requirement except a certified check for the deposit. Then cartel governments could use front men. A lawyer or broker deposits a check for several score million dollars, without revealing his sponsor. But the identity of nominal bidders could be kept secret for at least a short time prevent bugging, tapping, or kidnapping.

There is a second barrier to knowing the real bidders: since tickets could be transferred, a given shipload of oil arriving here could be covered by tickets issued to various people at various times. A third barrier: transshipment terminals are fed by sources all over the world. Oil would be arriving in the United States from the Bahamas, Japan, Rotterdam, France, etc. The cost of diversion, reloading, and even mixing would be very small relative to the price. A fourth secrecy barrier, crude or product exchanges, exists because there would already be a substantial and growing open market. For example, a broker acting for Iraq buys tickets, sells Iraq oil for delivery in Europe and Asia, displacing other oil which the broker ships to the United States, shipment covered by the tickets. Iraq gets the incremental production and revenues, The United States gets the rebates. Some exporting nation somewhere loses U.S. sales and wants to recoup. Because of the transshipment and swapping, higher U.S. sales by some governments would not necessarily indicate cheating. Countries making higher U.S. sales could always explain it—and usually correctly—by better quality, lower sulfur premiums, lower freight costs, better business conditions, and so on.

Cheating would be practical immediately, and it would be very tempting to any nation wanting incremental sales. We assume no cartel nation would try it, at first, while tickets were dirt cheap. But once the value of a ticket exceeded a few cents per barrel, oil companies could no longer afford it. They would be out of the act except as front men. Governments would now have to bid, not only to get additional sales but to keep what they already had.

All barrels imported into the United States would be incremental barrels, up for grabs every month. No exporting country could count on any sales in the American market, through the inside track of its resident companies or through other long-term buyers who had a large U.S. market. The exporting nations would have to keep on buying tickets to compete on equal terms with excess oil from all over the world coming here to find a home.

OPEC capacity is now 38 million barrels daily, and growing. Sales to countries other than the United States account for about 22 million. Thus, taking the rest of the world as safety divided up, there remain about 16 million barrels daily of OPEC capacity and 2 or more million barrels daily of non-OPEC capacity available to supply the American market. But our imports are less than one-third of the 18 million barrels daily. Excess capacity vis-a-vis the United States is proportionally much larger than excess capacity vis-a-vis the whole world.

Frequent auctions would be a convenience to the trade but a torment to the cartel. They would want as little price bargaining as possible, with very few

price and sales decisions taken at any given time. When every seller knows what everyone else is charging, he can easily conform. He knows also that everyone is watching him. With monthly auctions there is no time even to start tracing who has bid what. Considering the need to compete for every barrel, it is hard to imagine how the cartel nations could keep from bidding up the price of a ticket month after month.

The revenues from the auctions could be refunded to consumers generally, or used to subsidize low-income consumers, or public transport, or energy research and development. But we should not count the chickens before they hatch.

SPREADING DAMAGE TO THE CARTEL

The cartel would of course try to prevent the spread of competition. But containment would be difficult, costly, and probably impossible. For one thing, other large consuming nations would be watching with keen interest. However, timid and obsequious they had been up to now, our example would be hard to ignore.

Producer countries who lost their market share in the United States in any given month would need to recoup their losses the next month, not only in this country but elsewhere. For example, if Venezuela was bid out of the American market, it would lose nearly 40 percent of its revenues and would be forced to sell in Europe. In these days of a huge tanker surplus and very low transport costs, pressure at one place becomes pressure everywhere. Some exporting governments would already have overspent their revenues and more would need money in the future. They would all want Saudi Arabia to act as the industry statesman and cut back production to make room for them. Were there no great excess capacity, Saudi Arabia would accede. It would reason: "the capacity of the would-be chiselers is limited; let them use it fully. Better for us to lose part of the market than to retaliate and risk breaking prices." But for the near future, excess capacity would be so great that if those who wanted to chisel expanded to their limit, Saudi Arabia could be forced down to levels it could not tolerate. (In mid-1975, if Saudi Arabia had shut down completely, capacity would have exceeded demand.) At some point it would have to retaliate and risk disrupting the cartel.

In any case, it would be in our interest to have the lesser producers expand at the expense of Saudi Arabia. The more the Saudis lost their market share, the less concentrated, and hence the weaker, the cartel would be. The biggest producing nation is our chief enemy *ex officio*, because it is the chief cartelist.

A government which wanted more American sales would need to negotiate with American refiners and distributors, who could offer them a market—if the government provided tickets, or money to buy them. Oil companies large and small would move from being the agents for exporting governments to being their customers. They would shop around for better deals. As customers, oil companies would be working for us, not for the exporting governments.

To make use of the companies as customers, the U.S. government should sell tickets but should not buy, sell, or allocate oil. A U.S. government buying monopoly, mediating between customers needing an infinite variety of oils and suppliers seeking to know their customers' needs, would be engaged in "shuttle diplomacy" to the thousandth degree. Even if it did not break down in confusion, it would be counterproductive. Secrecy would be lost, since the supplier would have to identify himself to his customer, the government. The cartel would need to make only one decision, to fix the price to the one customer. Cartel governments would not be under pressure to decide individually every month how much to bid. We would lose the benefit of their not knowing who was not to be trusted. The more customers they had, the harder it would be to control the better deals some of those customers might be getting.

REACTION OF CARTEL GOVERNMENTS

The cartel nations would probably meet quickly to stop the hemorrhage of revenues to the United States and to other nations following our example. They would surely pledge not to pay rebates, but that would change nothing.

There is no way of finding out the cheaters, who along with non-OPEC nations would have the inside track. To divide the American market among cartel members would be another empty gesture.

The only thing they could do would be to set up a joint selling agency, with exclusive rights to sell all cartel oil. The sooner they did this, the worse matters would be for them and the better they would be for us. The company buffer would be gone. The governments would have the constant divisive job of haggling over

market shares. Confrontation in council, month after month, is what they now avoid. We should force it on them. Acrimony and suspicion would be cumulative, increased by frequent meetings and arguments over sharing the burden of excess capacity, which would in turn aggravate the usual difference of opinion about the best price to charge. The OPEC meeting of September 1975, with its still-unresolved haggling over small quality and freight premiums, is a mild sample of what we can bring about.

The cartel might buy up all tickets to destroy them. This would be a boycott as ineffective as the "embargo" of 1973–74, when the United States did as well as the "friends" of the Arabs. The production cutback was real. A selective boycott is as impossible now as it was then. If it were tried, prices of tickets would shoot up, benefiting us at their expense. If no tickets were presented for one or two weeks, the FEA could order special auctions, extend the expiration dates of all outstanding tickets or increase their value, or at worst briefly suspend the import limitation. Since the United States accounts for only 12 percent of cartel production, even a very low rate of defection would suffice. Furthermore, as governments boycotting the United States tried to recoup their losses in sales, there would be great downward pressure on prices everywhere else in the world.

IS THERE A CASE FOR DOING NOTHING?

Many people in Washington were confident, in early 1974, that the price would soon come down without our doing anything about it. It has since risen by half. Spontaneous reduction looks even less likely now than it did then. In my opinion, the dominant cartel members have increased long-run earnings by raising the price. But even if they preferred a lower price they would find it necessary to raise the price as a bribe to the smaller producers, who wants to get more money immediately. In return, the smaller countries restrain output instead of shading prices.

Time is not necessarily on the side of the consumer nations. Excess capacity can be gradually worked off. Some expansion plans have already been sharply cut back in the smaller countries. Smaller and militarily weaker producers will be afraid to expand capacity. Thanks to American armaments and training, Saudi Arabia and Iran will soon be able to occupy some oil-rich neighbors and stop production. The mere threat may suffice. The fewer the members, the stronger the cartel and the worse for its customers.

This Administration's obsession with expanding Saudia Arabian capacity is the worst possible strategy. The higher its market share, the less room there is for others, the stronger the cartel. An auction quota scheme would provide unlimited sales for small countries, at the expense of the larger ones.

WHAT IF THE SCHEME FAILS?

If the scheme fails, we lose nothing and gain some respect from the cartel. Showing them that we understand our plight and are looking for ways to oppose them should make them at least a little more cautious.

"Dialogue" with the oil exporters, as a group, has been taking place for years. It goes like this: *They:* "This is it." *We:* "Yes, boss."

An auction quota scheme would be an invitation to genuine dialogue with each individual exporting country. Then we would say: "If you want to sell oil in the States at your rivals' expense, see us next month."

SAUDI ARABIA'S APPROACHING CHOICE

(By Walter J. Levy)

1. OPEC oil production is now entering the steepest phase of its current cyclical upturn (see Table I). In March-June, 1976 production was running at an average rate of 29.3 million barrels daily, or 11.4 percent above the average in the same four months of 1975 and compared with an average of 27.1 million barrels per day in calendar 1975. We project that the members' combined production will have increased further by mid-1977 to a level of 34.2 million barrels daily (see Appendix A). How Saudi Arabia will react to this surge of demand remains to be seen. But clearly a significant price increase over the next 18 months cannot be ruled out.

2. On our most recent forecasts, we estimated 1980 OPEC production at 34.0 million barrels per day. This forecast was based on economic growth rates for the members of the Organisation for Economic Cooperation and Development that average 4.2 percent over the quinquennium 1976–80. On the economic growth rates now forecast by the OECD Secretariat (of 5.0–5.5 percent over the quinquennium), other things being equal and on our projections, OPEC would need to be producing 37.0–39.0 million barrels daily by 1980. But whether the 1976–80 average is 4.2 percent or 5.0–5.5 percent, it remains clear that the main jump in OPEC production will come before mid-1977.

3. The main reason for this is *that new sources of non-OPEC energy will become available after mid-1977, but only on a much smaller scale before that.* Further, it looks likely that the most pronounced part of the economic upswing will also come in the months before mid-1977; after that the boom will probably level off. Hence the much lower (or non-existent) rise in likely OPEC production between mid-1977 and 1980.

4. In June, OPEC had nominal capacity of 38.0 million barrels daily and produced at 29.9 million barrels per day, leaving it with nominal spare capacity of 8.1 million barrels daily. For three reasons however, not all of this spare capacity is available for immediate use.

TABLE I.—*Changes in OPEC crude oil production*

Percent change on same month 1 year ago:	
1975:	
January	−10.8
February	−16.2
March	−17.0
April	−19.3
May	−19.9
June	−16.5
July	− 9.7
August	− 1.1
September	+ 2.6
October	−14.5
November	− 8.2
December	− 4.1
1976:	
January	− 1.7
February	+ 8.3
March	+14.3
April	+10.4
May	+ 9.2
June	+10.9

5. First, much of it lies in Saudi Arabia. Since 1974 Aramco has been subject to a government production ceiling of 8.5 million barrels daily. In normal circumstances, therefore, available capacity in Saudi Arabia must be put at 8.8 million barrels per day, including 0.3 million barrels daily for the Saudi share of the Neutral Zone, instead of the 11.8 million barrels per day physical producing capacity. So, of the spare capacity in Saudi Arabia (3.3 million barrels daily in June), 3.0 million barrels per day must be counted as Saudi Arabia's reserve capacity, kept for use only in special circumstances, in particular to keep the rest of OPEC in line over price (see Appendix B).

6. Secondly, some other states are also pursuing conservationist policies, of a kind. Both Kuwait and Venezuela are unlikely to allow production to rise much above present levels: Kuwait, because its abundance of revenues and the mood of its Assembly have led its government to hold production to some 2.2 million barrels daily or thereabouts; Venezuela because of its low reserves/production ratio. Nigeria too is unlikely to allow production above about 2.2 million barrels per day now (and perhaps slightly more in the late 1970's), because its reserves too are relatively low and because of a lurking belief that the country might be able to make better use of additional oil revenues a few years hence, than today.

7. Thirdly, technical considerations usually prevent most producers from producing to the supposed limit of their capacity for more than very short periods of time. In practice therefore effective maximum production for individual producers requires a small margin of spare capacity.

8. So, out of OPEC's nominal space capacity in June, some 3.0 million barrels daily represented Saudi Arabia's reserve capacity and, probably 3.0–3.5 million barrels per day was probably not actually available for use, either because of production limitation policies in Kuwait, Nigeria and Venezuela, or because of technical factors. In other words, only 1.5–2.0 million barrels daily consisted of unused capacity actually available for use in the short term.

9. By mid-1977, some extension to OPEC capacity will have taken place, though largely in Saudi Arabia (see Table A5, page A–7). Even so it looks virtually certain that the jump in demand for OPEC oil will exhaust the margin of OPEC unused capacity that is actually available. To enable this demand to be met, our calculations (Appendix A) indicate that Saudi Arabia will have to produce at 10.0 million barrels per day.

10. This would entail the relaxation of the production limit. OPEC's spare capacity would then be as shown in the table on the next page.

OPEC's spare capacity at mid-1977

	Millions of barrels daily
Saudi Arabia (if Saudi production ceiling raised)	2.6
Kuwait (by political decision)	.8
Venezuela (by political decision)	.6
Nigeria (by political decision and/or due to technical factors)	.4
Others, totalling	1.5
Total	5.9

11. The central question that will therefore arise in the world oil economy in 1977 will be how Saudi Arabia will respond when it becomes evident that its production ceiling needs to be raised. By that time (mid-1977) the political and economic background of the world oil economy will be very different from what it was in 1975. (See Appendix C.)

12. The 8.5 million barrels daily ceiling on Aramco production came into being by accident. During the 1973–74 embargoes and cutbacks, an overall limit was placed on the "allowable" production of Aramco, a limit that altered from time to time. After most other producers removed their production ceilings in spring 1974, the Aramco limit—then 8.5 million barrels per day—remained in being. Since the end of the embargo, Aramco production has never reached this nominal ceiling. Although Sheikh Yamani and other Saudi spokesmen have cited the 8.5 million barrels daily ceiling, it is not known to what extent this level actually represents Saudi thinking as to long-term rates of production and depletion.

13. The eventual settlement with the American shareholding companies in Aramco might change the 8.5 million barrels daily ceiling. (See Appendix D.) But it is probably wrong to infer from Saudi Arabia's continuing programme of exploration and development that the current limit has no meaning. We have already mentioned (paragraph 5) the logic of the Saudi policy of maintaining a margin of reserve capacity (we deal with this more fully in Appendix B). Other factors might also underlie the capacity expansion programme: the desire to gain a more precise idea of the extent of the kingdom's oil resources; the opportunity to invest surplus revenues in a constructive way (i.e., on productive capacity), even if the extra capacity is not to be used yet; a hang-over from the pre-1973 days when Saudis were apparently prepared to allow production to rise to 20 million barrels per day, but when oil revenues were $1.75 a barrel against some $11.30 today. Further, Saudi Arabia might want to install capacity adequate to enable it to meet potential future world oil requirements, but leaving actual production decisions for the future.

14. Accordingly, once it becomes clear that pressure of world demand requires the production ceiling to be lifted, Saudi Arabia will face an important choice, which will have implications for Saudi policy in the 1980's also. There would seem to be three alternative lines of policy it could follow at that point.

15. *Alternative one* would be to maintain the limit in being. On the basis of the projections above, *the market would then be short of crude to the extent of 1 million barrels per day or more.* In these circumstances, prices could tend to be pulled up by sheer operation of market forces unless Saudi Arabia allows some of its reserve capacity to be used. If Saudi Arabia holds to its ceiling, prices for other OPEC crudes could move higher relative to the levels set by OPEC in its December, 1976 meeting. That is, if Saudi Arabia were to continue to hold the price levels for its Marker crude set by OPEC, other OPEC members (and per-

haps Saudi Arabia for its heavier crudes) would be able to earn a premium relative to Marker crude that reflected scarcity conditions in the course of the first half of 1977.

16. In effect, Saudi Arabia might be prepared to let prices float up. It might hope that the blame would then fall on other OPEC members, or on "market forces." It might also calculate, as we have done (see Appendix A), that between mid-1977 and 1980 the growth of non-OPEC energy sources (North Sea, Alaska and non-oil sources) and extra capacity in some OPEC states (mainly Iraq) would reduce the demand for Saudi oil by 1980 to less than 8.8 million barrels daily, so that it would regain control over the price.

17. But such a Saudi decision could be an ominous pointer to the 1980's. Then the world looks likely to need increasing volumes of Saudi crude. If Saudi Arabia were to hold to a rigid ceiling or relax ceilings only gradually and after upward pressure on prices asserted itself, the oil-importing world could face both tight supply balances and sharply rising prices.

18. *Alternative two* would be to lift the limit, arguing that the bump in demand in mid-1977 was exceptional, and will be ironed out once new capacity comes in. However, this would not be the end of the problem. For even if demand for Saudi crude does fall back below the current ceiling around 1979–80, it would only be another year or two before it bumps up against it again. *Sooner or later Saudi Arabia will have to formulate a coherent policy on depletion.* At present its apparent policy is rudimentary: to limit Aramco's output to 8.5 million barrels per day. But if that limit is to be raised the first time there is any pressure on it, future Saudi production policy would still remain uncertain. That is to say, would Saudi Arabia also raise production when added supplies are needed not just to meet a transitory bump in demand, but when there is a continued upward trend in demand for OPEC and specifically Saudi Arabian production?

19. *Alternative three* would be to lift the limit, but to make this the occasion and the excuse for an increase in the price. Saudi Arabia could claim that the fact that it was having to lift the limit validated the arguments it presented in the Spring to the Conference on International Economic Cooperation: that the West was consuming OPEC hydrocarbon resources too fast and making too little effort to develop its own oil and non-oil sources.

20. The jump in demand for Saudi crude could be sited as evidence (see Appendix C) that real oil prices were no longer "too high" (in relation to world economic growth prospects and the viability of other energy sources); and as evidence that non-OPEC sources needed a further stimulus so as to preserve OPEC resources for the future needs of the LDC's, when they are richer and more industrialized.

21. Such a policy shift would mean that the present Saudi Government was moving towards a more fully-thought-out depletion policy for the 1980's. In place of a rigid production ceiling Saudi Arabia would be moving over to the use of price to regulate demand for oil, and hence (as Saudi Arabia looks likely to remain the marginal source of supply) for Saudi oil.

22. Saudi Arabia's decision could give some indication of how its policy is emerging on what will be the most important single energy issue over the next 15 years. *This is whether the level of Saudi Arabia's output will be that dictated by its own needs or that dictated by the needs of its customers; or whether it tries to bring the two figures closer together—by using the price mechanism.*

APPENDIX A—DEMAND FOR OPEC OIL IN MID-1977

1. Using the growth rates given in Table A1,[1] we estimate that total primary energy consumption of the members of the Organisation for Economic Cooperation and Development will grow, between 1975 and mid-1977, as shown in Table A2. The table also shows our forecast changes in supplies of non-oil energy sources to the OECD and hence the growth in OECD demand for oil, from 1,772 million tonnes a year in 1975 to 2,060 million tonnes a year at mid-1977.

2. Table A3 then sets out our forecasts of non-OPEC oil supply to the non-communist world at that date, compared with 1975. The total comprises all production in the non-communist world plus forecast net exports from China and the Soviet block. In Table A4, we then reach a figure of forecast external demand for oil from OPEC of 32.7 million barrels daily. This, with OPEC's domestic

[1] Tables A1 to A5, pp. 333–335.

consumption forecast by us at 1.5 million barrels per day, gives a total forecast OPEC production of 34.2 million barrels daily.

3. As Table A4 shows, this mid-1977 total is actually slightly higher than our latest forecast for OPEC output in 1980. In fact the 1980 forecast is based on economic growth rates for the OECD area averaging 4.2 per cent for 1976–80 inclusive. The OECD Secretariat's new forecasts—of OECD economic growth averaging 5.0–5.5 per cent over the five years—indicate OPEC output in 1980 of 37.0–39.0 million barrels per day on our projections, other things being equal. Even on these assumptions however the main jump in OPEC output would come between 1975 and mid-1977. For this pattern—a large jump between 1975 and mid-1977, and a smaller one or none between mid-1977 and 1980—there are two key reasons.

4. One is that 1975 was the trough of the last world economic growth cycle, while 1976 and 1977 look likely to be the years of most rapid economic growth in the present cycle, with lower average economic growth rates to follow in 1978, 1979 and 1980. Energy consumption looks likely to follow the same pattern.

5. Secondly, major additions to Western oil supplies will come in between mid-1977 and 1980, notably a net increase of 1.9 million barrels daily in west European production (almost all from the North Sea), 1.2 million barrels per day from Alaska and further volumes from elsewhere including China, though with net exports from the Soviet block disappearing and being replaced by small net imports. Further, the main growth in non-oil energy sources to the West will also come after mid-1977. For example, we forecast nuclear to increase by some $.5 million barrels daily of oil equivalent up to mid-1977, but by a further 2.1 million barrels per day of oil equivalent in mid-1977 to 1980, with a similar pattern, on a smaller scale, for natural gas and solid fuels.

6. Between 1975 and 1980 the main net extensions to productive capacity in the OPEC countries are likely to be made in Iran, Iraq and Saudi Arabia, with Saudi Arabia's being by far the biggest. But by mid-1977 the extension in Iraq will have got only a little way, and Iran's probably nowhere at all. But both countries look likely to be producing more crude in 1980 than at mid-1977; Iraq about 1 million barrels daily more and Iran about 0.4 million barrels per day more. Thus even within OPEC itself the jump in demand for its crude is going to come before the main additions to non-Saudi productive capacity have been made. Accordingly it seems likely that Saudi Arabia will be required to supply substantially more crude in mid-1977 than in 1980. Table A5 gives a probable breakdown of OPEC production between members at mid-1977, compared with a possible breakdown for 1980 and with actual figures for 1975.

7. Some of these forecast production figures for mid-1977 may prove optimistic, notably those for Algeria, Indonesia, Iran, Iraq, Libya and the United Arab Emirates. It is by no means certain that these countries will be technically capable of producing at the rates we show in Table A5. But even if they are, Saudi Arabia will still be required to produce at 10.0 million barrels daily or 1.2 million barrels per day above its present effective ceiling.

TABLE A-1.—ASSUMED AND IMPLIED RATES OF GROWTH UNDERLYING FORECAST FUTURE CONSUMPTION OF ENERGY IN OECD AREA AND OIL IN THE REST OF THE FREE WORLD

[Percent per annum]

<table>
<tr><th></th><th>1976</th><th>1977</th><th>(Average) 1978–80</th><th>(Average) 1976–80</th></tr>
<tr><td>OECD GNP (assumed)</td><td>5.4</td><td>5.8</td><td>3.3</td><td>4.2</td></tr>
<tr><td>OECD energy consumption (implied) [1]</td><td>5.1</td><td>5.3</td><td>3.2</td><td>4.0</td></tr>
<tr><td>OECD oil consumption (implied) [2]</td><td colspan="2">7.6</td><td>2.3</td><td>4.4</td></tr>
<tr><td>Rest of the free world (excluding OPEC) oil consumption</td><td colspan="2">4.7</td><td>3.6</td><td>4.0</td></tr>
</table>

[1] We have forecast the GNP growth rates separately for the United States, Japan, OECD-Europe and "the rest." These growth rates we have multiplied by suitable energy coefficients for each subgroup. This produces totals of energy consumption for each subgroup and hence for the OECD as a whole. The percentages given in the second line are therefore the implied growth rates for OECD energy consumption.

[2] These are the percentages implied by table A–2.

TABLE A-2.—OECD ENERGY CONSUMPTION

[In millions of tons of oil equivalent]

	1975 actual	Mid-1977 [1] projection	1980 projection
Solid fuels	689	715	790
Natural gas	726	750	788
Nuclear [2]	75	100	205
Hydro/geo [2]	256	270	298
Total nonoil	1,746	1,835	2,081
Oil	1,772	2,060	2,193
Total OECD primary energy consumption	3,518	3,895	4,274

[1] At annual rate.
[2] On energy input basis.

TABLE A-3.—NON-OPEC OIL SUPPLY

[In millions of barrels a day]

	1975 actual	Mid-1977 projection	1980 projection
Britain		0.7	2.0
Norway	0.2	.6	1.1
Other OECD Europe	.3	.3	.4
Total OECD Europe	.5	1.6	3.5
United States	10.0	9.4	11.0
Canada	1.4	1.6	1.7
Australia	.4	.4	.5
Total OECD	12.3	13.0	16.7
Rest of non-Communist world	3.5	4.3	5.7
Net exports of Communist countries	1.0	1.0	.2
Total non-OPEC oil supply	16.8	18.3	22.6

TABLE A-4.—REQUIRED OPEC OIL OUTPUT

[In millions of barrels a day]

	1975 actual	Mid-1977 projection	1980 projection
Oil consumption in:			
OECD (per table A-2) [1]	36.2	42.0	44.8
OPEC	1.2	1.5	1.9
Rest of non-Communist world	7.3	8.0	8.9
Total consumption	44.7	51.5	55.6
Stocks/losses	−.8	1.0	1.0
Total demand	43.9	52.5	56.6
Non-OPEC output (per table A-3)	16.8	18.3	22.6
OPEC output required	27.1	34.2	34.0
Total supply	43.9	52.5	56.6
OPEC exports	25.9	32.7	32.1
OPEC consumption	1.2	1.5	1.9
Total OPEC output required	27.1	34.2	34.0

[1] Converted at 7.45 barrels to 1 ton.

TABLE A-5.—OPEC OIL PRODUCTION

[In millions of barrels a day]

	1975 production (average for year)	May 1976		Mid-1977 [1]			1980 [1]	
		Capacity	Production	Capacity	Production	Spare capacity	Capacity	Production
Algeria	0.9	1.1	1.0	1.1	1.0	0.1	1.0	1.8
Ecuador	.2	.2	.2	.2	.2		.5	.0
Gabon	.2	.3	.2	.3	.2	.1	.3	.8
Indonesia	1.3	1.7	1.5	1.8	1.7	.1	2.0	2.2
Iran	5.4	6.5	5.6	6.6	6.4	.2	7.1	6.0
Iraq	2.2	2.6	1.1	3.1	2.8	.3	4.0	3.5
Kuwait	2.1	3.0	1.7	3.0	2.2	.8	3.0	2.1
Libya	1.5	2.5	1.9	2.5	2.2	.3	2.5	2.1
Nigeria	1.8	2.7	2.1	2.7	2.3	.4	3.0	2.5
Qatar	.4	.7	.5	.7	.6	.1	.7	.4
Saudi Arabia	7.1	11.8	8.5	12.6	10.0	2.6	14.7	8.2
UAE	1.7	2.4	1.9	2.5	2.2	.3	2.8	2.2
Venezuela	2.3	[2] 2.5	2.4	3.0	2.4	.6	3.0	2.2
Total	27.1	38.0	28.6	40.1	34.2	5.9	44.6	34.0

[1] Projected.

[2] In our view this figure is an underestimate. Hence the higher figures we forecast for Venezuelan productive capacity for mid-1977 and 1980.

APPENDIX B—THE ROLE OF SAUDI ARABIA IN THE WORLD OIL MARKET

1. We have referred to Saudi Arabia's large margin of spare capacity. In May some 3 million barrels per day of this consisted of its reserve capacity. This is capacity over and above the 8.8 million barrels daily effective maximum allowable production (including 0.3 million barrels per day for the Saudi share of the Neutral Zone). With this reserve capacity Saudi Arabia can increase its production substantially if it chooses.

2. Alternatively, Saudi Arabia has the capability to make a large reduction in its output without suffering any economic hardship or inconvenience. A cutback in Saudi production from the May level of 8.5 million barrels daily to 3.5 million barrels per day would probably still leave it with oil revenues sufficient to cover its external payments on current account, without allowing for investment income and ignoring any consequential rise in oil prices. In fact a cutback of Saudi production certainly would cause a rise in oil prices.

3. Saudi Arabia can therefore produce at any rate between 11.8 million barrels daily and 3.5 million barrels per day. This wide range of choice gives if the latent power to set the oil price unilaterally, over a wide range of possible total demand for OPEC oil, but provided it is actually prepared to use its margin of reserve capacity if need be.

4. This enables Saudi Arabia to impose its ideas on pricing on to OPEC. At the OPEC ministerial meeting at Vienna in September, 1975 Saudi Arabia threatened to "flood the market" by lifting its production ceiling and refusing to implement any OPEC price rise of which it disapproved. This threat forced other OPEC members to compromise on a price increase of 10 per cent. At Bali in May, 1976, Saudi Arabia refused even to compromise. Using the same threat, it imposed on OPEC an extension of the nine-month price freeze.

5. Thus, Saudi Arabia's latent power to set the world oil price has now been transformed into an actual power to do so, a power that Saudi Arabia is no longer afraid to be seen to use. Thus, as the world's marginal supplier of oil, and of energy, Saudi Arabia's production policies become pivotal in the pricing of world oil and energy, both for their effect within OPEC councils and on world oil balances and hence market prices.

6. Since December, 1973, Saudi Arabi'a increasing influence on OPEC pricing has been applied in the direction of price moderation. Walter J. Levy SA has warned before that there are grounds for expecting this to change over the coming 10–15 years. Saudi Arabia will have a diminishing interest in imposing a price policy that is unpopular with most of the organisation's members and strains OPEC unity. Saudi Arabia is more likely to be allowing real oil prices to rise only gradually by 1980, but more quickly during the late 1980's.

7. It is partly for this reason that Saudi Arabia's reaction to the abrupt jump in demand for its crude between 1975 and mid-1977 will be important. Not only

will it give some indication of the thinking of the present Saudi leadership about future production policy. It will also indicate—as a related issue—whether Saudi Arabia's crucial influence for price moderation will be sustained in the face of a resumption of world economic growth at normal rates and of steady growth in demand for Saudi oil.

APPENDIX C—THE BACKGROUND IN MID-1977

1. In Doha next December OPEC ministers are expected to review prices. Prices will probably also be discussed at other meetings in the first half of 1977. However, by mid-1977 the political and economic background to these discussions will be radically different from that at Vienna and Bali in 1975 and 1976.

2. On the political side, the Conference on International Economic Cooperation (the North-Side dialogue) will probably have ended, at least in the form originally conceived. While this dialogue has been running, and during the earlier period when it was being prepared, oil producers have been under some inhibition about putting prices up. The West was persuaded to enter the dialogue by the prospect of a more orderly and favourable set-up for world prices and supplies. The dialogue may produce a major impetus towards new arrangements for commodities and agreement on debt rescheduling. But even if it does, and this looks far from likely, oil producers will then cease to be constrained in their price policy by fears of enraging the West and scuppering the dialogue.

3. Secondly, by mid-1977 the OECD countries will probably have enjoyed an 18-month period of economic growth averaging 5.3–5.4 per cent, on the Secretariat's latest forecasts. By mid-1977 OECD GNP looks likely to have grown by 30 per cent in money terms, in the 2½ year period since oil prices were first frozen on 1st January, 1975. In this period oil prices have risen 10 per cent so far, with another rise to come in December, 1976.

4. Thirdly, this revived economic growth will probably have caused an upsurge of commodity prices, though perhaps not on the scale of 1972–74. The LDC's will benefifit considerably. Their payments problems will be eased. They will also be better able to withstand new oil price rises, a factor that will influence OPEC.

5. Fourthly, with revived economic growth and shrinking margins of spare productive capacity in key sectors of the industrial economies, inflationary pressures will intensify. They will be reinforced by the commodity price boom.

6. By mid-1977 it will be beyond dispute that real oil prices have been significantly eroded since January, 1975, and that the erosion is continuing. Since January, 1974 both the American and Saudi governments have been arguing that some erosion of real oil price levels has been needed, to allow normal world economic growth to resume. And the Americans have ascribed the slippage in OPEC oil output since autumn 1973 to over-large price increases then and later.

7. In mid-1977, however, both these arguments will cut the other way. They could then be used to justify new price increases: growth will have convincingly resumed: and OPEC output looks likely to be above the previous peak (of 32.7 million barrels per day in September, 1973).

8. Moreover by that time revived economic growth will have brought a new wave of prosperity to both the developed countries and (through a new commodity price boom) to most LDC's. Only the oil producers will be left out. Most of them will have enjoyed some increase in volume sales. But by mid-1977 it will be hard for most of them to generate higher revenues even by higher volume sales. As we show in Table A5 on page A–7, all will have reached capacity operation, except for Saudi Arabia, except for those countries pursuing deliberate policies of conservation (which will be producing at their ceilings) and except for margins needed for technical reasons.

APPENDIX D—THE EFFECT OF THE ARAMCO SETTLEMENT

1. By mid-1977, it is possible that new arrangement will have been negotiated between Saudi Arabia and the American partners in Aramco. Under new arrangements the present production limit of 8.5 millioon barrels daily might be superseded.

2. The outline of the likely settlement is still foggy. What does seem to be under consideration is a two-tier structure. Under this the shareholding companies will be entitled to lift *a specified base volume of crude each year on reasonably favourable terms* as a reward for their expertise and for guaranteeing to lift these vol-

umes, possibly subject to penalties for underlifting. Beyond this, further volumes of crude might be available to these companies and others on less favourable terms. It remains unclear, among other things, whether the present 8.5 million barrels per day limit will remain in any form.

3. If it does, the position will be the same as now. In mid-1977 Saudi Arabia will still face the choice we have explained, *of lifting it, or seeing oil prices rise out of control.*

4. If there is no such limit, the dilemma will take a less obvious form. Saudi Arabia might choose to produce whatever volumes the world needs and to make them available at a price at or near the present OPEC price.

5. Alternatively, even without a limit like the present one of 8.5 million barrels daily, Saudi Arabia might produce extra volumes—over and above the base volumes agreed with the Aramco partners—but *charge a significantly higher price for them.* In fact it might vary the price for these extra volumes according to the level of world demand for oil and with the aim of moderating the growth of world demand for oil.

6. In other words, even if an Aramco settlement does come before mid-1977, and even if it involves the disappearance of the present 8.5 million barrels per day limit, this change will do no more than blur the issue. Saudi Arabia will still have to decide whether to meet world demand for its crude in mid-1977, or whether to set a production limit and allow prices to rise by themselves, or wheher to make extra volumes available at a higher price (which would automatically allow other OPEC producers to raise their prices to equivalence with this higher marginal oil price, no matter what the official OPEC price might be).