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**U.S. OIL IMPORTS IN 1985 - COST,  
SECURITY AND AVAILABILITY**

by

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### Historic Views Of Future Import Levels

The debate over what level of oil imports this country can safely tolerate has been going on since 1954. In that year imports accounted for 13 percent of our demand and a Cabinet Committee appointed by President Eisenhower found that a substantial increase above that level would not be in the national interest.<sup>1</sup> The various import control programs which followed this finding did succeed in keeping the level of imports relatively low for a long time. Thus, by 1969 the ratio of imports to demand had only risen to 22 percent and much of the increase was due to oil from Canada which in those days was considered more an extension of domestic oil production than a source of imports.

1969 was also the year when another Cabinet Task Force took a look at the oil import problem.<sup>2</sup> Its report concluded that at the then prevailing domestic crude oil price of \$3.30/barrel imports would not exceed 23 percent of our demand in 1975 and 27 percent in 1980, and that our Eastern Hemisphere dependence could be held to zero in both years. Before we start laughing at these conclusions of the Task Force it should be remembered that much of the material on which they were based had been furnished by the oil industry.

It was after 1969 when domestic crude oil production peaked and then started to decline that imports really started to take off. In 1973, the year of the OPEC petroleum price revolution, they approached 38 percent of our demand and in the current year they will contribute at least 41 percent.

The new trend was fully recognized for the first time in the massive National Petroleum Council ("NPC") study on the outlook for energy which was published in 1972.<sup>3</sup> The study projected that under its Case III assumptions, considered then the most realistic of its four cases, oil imports would rise to 47 percent of

demand in 1975 and then gradually move up to over 50 percent by 1985. Under its Case II assumption which contained a more optimistic outlook for domestic oil production, the share of imports was expected to rise to 42 percent in 1975 and drop to 38 percent in 1985. The import volumes projected by the NPC were 7.5 and 10.6 million barrels daily for 1980 and 8.7 and 13.5 million barrels daily for 1985, Case II and Case III, respectively. Much has happened in the oil industry since 1972, most of it unexpected. But the import shares and volumes in that NPC report look more realistic today than many more recent projections.

#### Project Independence Reports

The Federal Energy Administration's ("FEA") monumental Project Independence Report, issued in November 1974,<sup>4</sup> projected under its Business-As-Usual or Base Case that at a constant (mid-1973) oil import price of \$11/barrel, which is approximately in line with current import prices, our import requirements would be 4.6 million barrels daily, or 26.4 percent of demand, in 1980 and 3.3 million barrels daily, or 17.3 percent of demand, in 1985. Under its Accelerated Supply Case imports would drop to zero in 1985. The Project Independence figures were based on the premise that domestic

prices would rise to equate with imported oil. For "new" oil this has been true until February 1976 when prices were temporarily rolled back by about 10 percent. For "old" oil this has of course not been the case. Thus, what the Project Independence Report said, in effect, was if "old" oil prices were allowed to rise to market levels, the ensuing reduction in demand and increases in production would have reduced our imports dramatically by 1980 and put them back to the level of the mid-1950's by 1985. The assumptions and findings of the Project Independence Report were widely criticized not only by the oil industry but also by academic analysts and were soon dismissed by the FEA itself as unrealistic.

The FEA has now completed a revised version of its Project Independence Report. The full report is not available at this writing but figures released so far show that of the Report's three price cases the middle one, which assumes a constant (1975) import price of \$13/barrel, requires 5.9 million barrels daily of imports in 1985 or just over 28 percent of U.S. demand. In other words, oil imports would decline by more than one million barrels daily between 1976 and 1985 while demand would increase by 3.5 million barrels daily. \$13/barrel is a

good number for the current landed import price of crude oil. OPEC may be able to maintain this price in real terms through 1985 though I have some doubts which I will discuss later on. However, the \$13 import price is of course only meaningful for U.S. supply and demand if domestic oil prices are allowed to equate with it. We know that this is not even remotely the case now, with the average U.S. price controlled at \$7.66/barrel, and will not be the case until at least April 1979. Even "new" oil, currently controlled at \$11.28/barrel, will not attain the constant (1975) price of \$13 any time in the next three years. Furthermore, there is a distinct possibility that some form of price control, at least on the remaining volume of "old" oil, will continue beyond the expiration of the Energy Policy and Conservation Act, particularly if import prices rise in line with inflation. Thus, the FEA's \$13 case may correctly reflect the economics of oil but probably not the politics of oil.

The FEA's low-price case, which has a constant import price (in 1975 dollars) of \$8/barrel by 1985, appears to be unrealistically low for import prices, for it assumes no monetary increase in world oil prices over the next nine years.

For domestic oil, however, it would seem to be only slightly on the low side. The FEA's preliminary projections for its \$8 case show an import level of 13.5 million barrels daily or 52 percent of demand by 1985.

#### Other Forecasts

If the FEA's \$13 price projection is too high and the \$8 one too low, actual imports in 1985 can be expected to fall somewhere between the volumes calculated for these two cases. Most current industry forecasts would agree with this. They generally range between 8 and 12 million barrels daily. Two recent government forecasts show somewhat similar figures. A Library of Congress report projects an 8.3 million barrels daily import level, assuming a required annual energy growth rate of at least 2.8 percent between 1974 and 1985.<sup>5</sup> A study by the Bureau of Mines has "supplemental" oil supplies of 8.1 million barrels daily, most of which would probably be imports.<sup>6</sup> However, that study estimates Northern Alaskan crude oil and NGL production at 4 million barrels daily in 1985. This is more than a million barrels daily above the estimates of any of the companies with reserves in that region.

All of these forecasts agree that volumetrically imports are likely to grow substantially between now and 1985. As a share of demand they are unlikely to drop below 40 percent and could go as high as 50 percent. Can we afford such a level of imports, economically and in terms of national security, and can we physically obtain it without straining the productive capacity of the oil exporting countries?

#### A Ten Million Barrels Daily Import Scenario

Let us assume an import level in 1985 of 10 million barrels daily. This is not a forecast but a working hypothesis for the purpose of our analysis. But it is a realistic one - midway between the high and low estimates. Personally, I think it is somewhat on the high side and, hence, a more conservative number for testing U.S. import dependency than a lower volume, based on a more optimistic scenario of lower future U.S. oil demand and/or higher domestic production.

##### (1) Balance of Payments Effect

Let us look first at the balance of payments impact of a 10 million barrels daily import level in 1985. Last year we imported a total of 6.5 million barrels daily of oil. An increase to 10 million barrels daily over a ten-year period would be equivalent to an average annual growth



rate of 4.4 percent. The growth rate would not be even. This year it is likely to approach 15 percent while in 1978 and 1979, when Alaskan oil starts flowing on a large scale, it will at best be very small and could even be negative. But over the period as a whole it is a very modest increase, in terms of our overall foreign trade trends. In the five year period 1970-1975 the dollar value of our total exports rose at an annual rate of 19.8 percent. This may have been an unusual period, due in large part to the combination of the upsurge in import demand from the OPEC nations and the domestic price inflation. However, even if we look at the much longer period, 1960-1975, the annual growth rate was still 11.6 percent.

But it would be unrealistic to assume that imported oil will only rise in volume over the next ten years. The price is also likely to move up. The question is by how much? The answer is difficult, since we all must live with the memory of the 300 percent price increase in the last quarter of 1973. However, the maximum claim made by OPEC spokesmen has been the maintenance of the price achieved at the end of 1973 in real terms, in other words, protection of its purchasing power. The most powerful OPEC spokesman, Sheikh Yamani of Saudi Arabia,

has persistently advocated a more modest price policy. Actually, the increase in Government Take of Saudi Arabian marker crude oil between the end of 1973 and October 1, 1975 when the most recent OPEC price increase was announced, has been very close to Government Take maintenance in real terms. On January 1, 1974 Government Take was \$9.32/barrel based on a 60/40 split of the production volume between "equity" and "participation" crude oil. By October 1, 1975 it had been raised in a series of steps to \$11.00/barrel, an increase of 18 percent. During approximately the same period (1st quarter 1974 - 3rd quarter 1975) the increase in the unit value of export prices of the industrial countries -- the countries from which OPEC nations buy most of their imports -- rose by just under 21 percent. On a very rough measure, then, OPEC has approximately, but not quite maintained the purchasing power of the income it receives from the exportation of a barrel of crude oil.

A recent study by the British economist Professor Colin Robinson who is an expert on international oil affairs, has maintenance of OPEC oil prices in real terms as the highest of three possible future price scenarios. Several major oil companies in their internal forecasts also assume that OPEC prices will

not rise faster than world inflation rates, measured in terms of the export prices of the industrial countries. These rates dropped sharply in 1975. On a quarter-to-quarter basis, prices were flat in the second quarter and actually declined by nearly 5 percent in the third quarter. On a year-to-year basis, third quarter 1975 prices were just 5 percent above the third quarter of 1974.

Thus, the super inflation in industrial export prices of 1974 which formed such a large part of OPEC's public justification for its price increases has now been supplanted by a very modest inflation rate. If we project this rate at 6 percent per year from now through 1985 we are probably close to most of the more recent expert forecasts. OPEC prices will probably not be able to keep up fully with the world inflation rate. But let us assume they will, i.e. OPEC oil prices will rise on the average by 6 percent a year which would put Government Take on Saudi Arabian marker crude at nearly \$20/barrel in 1985.

If we add this rate to our 4.4 percent volume growth rate, we find that the cost of imported oil in current dollars will rise by 10.4 percent annually.

Comparing this to our long-term historic export growth rate of 11.6 percent, and assuming this rate will not change significantly over the next decade, we can say that our relative ability to pay for our oil imports will be no less in 1985 than it was last year or the year before.

(2) National Security Risk

Next, let us examine the national security impact of this level of imports. Last year 25 percent of our imports, or 1.6 million barrels daily, came from Arab sources. If the entire increase of 3.5 million barrels daily in imports between 1975 and 1985 came from Arab sources, which is possible but not probable, our import dependency on Arab oil would be just above 50 percent in the latter year. Thus, if for any reason we lost all access to Arab oil and no non-Arab oil exporter would make up any part of the loss, our imports would decline by 50 percent. It is possible to develop a worse-case scenario. But its probability rating would be very low. Let us therefore assume that a sustained loss of half of our oil imports is the likely maximum case against which we must protect ourselves.

By 1983 our Strategic Petroleum Reserves should amount to about 640-650 million barrels under the base period formula in the law passed last December. This would offset a five million barrels daily import loss for about 130 days. Commercial stocks in excess of minimum operating levels might add another twenty days, giving us a total of five months of protection from a likely maximum import interruption. A 5 percent reduction in demand imposed by the President under existing stand-by authority and going into effect after the first thirty days of interruption would add another 132 million barrels, or twenty-six days, thus giving us a total protection for about six months before the import loss would have a major effect on the economy.

Whether this is long enough to cope with the causes or outwait the duration of a major supply interruption is anyone's guess. It would certainly give us a much longer protection than we had or needed to cope with the last embargo. Probably, drastic actions such as a total embargo on half of our oil imports wouldn't last very long. However, if we could increase our strategic stocks to 900 million barrels -- still

below the Congressional ceiling of 1 billion barrels -- this would give us about eight months of protection which would seem to be a pretty good insurance policy for most eventualities, although not a cheap one.

(3) Availability of Foreign Supplies

The final question we must ask is: will there be enough oil available to import 10 million barrels daily in 1985 without creating a global shortage? The existence of a large surplus in crude oil producing capacity outside North America is an undisputed fact. Let me cite two sets of figures to illustrate its magnitude. (1) From the third quarter of 1973 -- the period just prior to the Arab embargo and the great OPEC price increases -- to the fourth quarter of 1975 OPEC oil production dropped by 6 million barrels daily or 18.6 percent; (2) OPEC's current excess capacity, that is the level to which production could be raised without the drilling of additional wells or the installation of major new facilities, is estimated at 11-12 million barrels daily, equal to 42 percent of end-1975 production of about 27 million barrels daily.

By 1978, OPEC's output will probably still be slightly below the level attained immediately before the embargo and

will more or less stay there until about 1980 because of the impact of the incoming North Sea and North Slope production. Current OPEC capacity levels may be approached by about 1985, assuming a non-Communist world demand of about 62-63 million barrels daily. Thus, our 10 million barrels daily of imports in 1985 should be readily available without straining the supply system even if OPEC productive capacity is not increased during this period and no major new oil supplies outside of OPEC are developed, other than those already known.

#### Policy Implications

What are the policy implications of our hypothetical findings that 10 million barrels daily of oil imports in 1985 can be sustained, obtained and protected?

First, it means that we do not need to engage in a hundred billion dollar crash program to develop alternate energy resources which at the very most would reduce our 1985 imports by 1 to 1.5 million barrels daily, much of it at a cost above the likely price of imported oil.

Secondly, we cannot let up on any domestic efforts to find new oil because our import level requires domestic crude oil and NGL production of about 11.5 million barrels daily in 1985, or 1.5 million barrels daily above last year's output. We can reach that level but not without

an intelligent and far sighted government policy which recognizes the connection between providing incentives and the finding and development of new supplies.

Third, we must also continue to emphasize conservation measures and the substitution of oil by other available energy sources, particularly coal, wherever possible; for our projected 1985 demand of 22 million barrels daily assumes an average annual growth rate of only 2.9 percent - far less than the long term historic growth rate prior to 1974.

#### Foreign Oil Exploration

Another policy requirement is that we do not limit our exploration and development activities to the U.S. If we accept the fact that we will have to live with a growing level of oil imports, we must do everything we can to minimize excessive dependence on any one source of foreign supplies, be it a single country or a bloc of countries with a declared uniform foreign policy. The security of our supplies and the chance to obtain them at manageable prices will depend largely on our and other importing countries' ability to prevent, as much as possible, excessive concentration on any one supply source. Since 1973 Congress and the Administration have paid



very little attention to this need. The current official attitude seems to be that since all foreign oil has become insecure and expensive, we must bring our capital and equipment back home and concentrate on developing domestic oil and other energy resources. The changes in our foreign tax credit law and the reasons given for making these changes reflect this attitude.

It is of course true that foreign oil supplies have become far less secure and more expensive than domestic oil. They are also much less profitable and more risky for U.S. companies. Consequently, these companies need no negative prompting in the form of U.S. tax disincentives on their foreign operations to maximize their domestic activities.

However, since we will not find enough oil at home to meet much more than half our demand over the next ten years, we should encourage U.S. companies to find as much oil abroad and in as many different places as they can, be it China, Viet Nam, Angola or Brazil. All of these are insecure. But the insecurity of each differs from that of any other as well as from the Arab League's or Iran's or Nigeria's. Hence, every new foreign supply source or increase in existing supply source, except in Saudi Arabia and one or two other Persian Gulf countries, reduces the likelihood of an effective future

embargo or the enforceability of a disproportionate future price hike. The search for foreign oil is therefore still in our national interest and policy makers should take note of it.

#### A Look Beyond 1985

My final point regarding our oil import policy is that we must also look beyond 1985. Obviously, we cannot go on indefinitely increasing our imports even at the relatively modest rate assumed in this paper. After 1990 the risk and economic burden may well become excessive. Thus, for the long pull, there is a real need for the commercial development of new energy sources at competitive prices. Given the likely lead times, we must start now to construct pilot plants if we want these sources on a moderately significant scale in fifteen to twenty years.

In the meantime public pronouncements should stop telling us that "we are well on our way towards energy independence" or that we must achieve it at all costs by 1985. Instead, we should face up to the fact that our dependence on foreign energy will rise throughout the next ten years under almost any realistic set of conditions, and base our energy policy on this reality.

## FOOTNOTES

1. Executive Office of the President, Report on Energy Supplies and Resources Policy, February 26, 1955.
2. The Oil Import Question, by the Cabinet Task Force on Oil Import Control, February 1970.
3. U.S. Energy Outlook, A Report of the National Petroleum Council, December 1972.
4. Project Independence Report, Federal Energy Administration, November 1974.
5. Towards Project Interdependence: Energy in the Coming Decade, by Dr. Herman T. Franssen, Ocean and Coastal Resources Project, Congressional Research Service Library of Congress, December 1975. The actual import figure shown in the report is 9 million barrels daily, but about 700,000 barrels daily of it represents the oil equivalent of projected natural gas imports.
6. Energy Through The Year 2000, Bureau of Mines, U.S. Department of the Interior, December 1975.