



Telephone: (212) 867-0052

**Petroleum Industry Research Foundation, Inc.**

**122 EAST 42<sup>nd</sup> STREET**

**New York, N. Y. 10017**

THE OUTLOOK FOR OIL AND GAS

by

John H. Lichtblau  
Executive Director

Address before

The New York State Energy Conference

September 20, 1978

In assessing the outlook for energy let me start out by repeating a figure Commissioner Larocca has just cited - only 8% of the State's energy requirements are produced within its borders. Almost all of this consists of water power. Our organization has recently made a forecast of the energy outlook for New York State to 1990 and we don't see any significant change in the share of self-sufficiency by then.

However, dependency on outside supplies is only detrimental or risky to the extent to which the outside supply sources are insufficient or insecure. Currently, this is not the case with coal or the uranium which fuels our atomic power plants. Nor is the situation of these two fuels likely to change over the next 12 years. Both come entirely from secure domestic sources and their ready availability throughout the 1980's and beyond is fairly certain. However, our forecast shows that by 1990 both sources -- coal and atomic energy -- plus water power will together account for no more than 30% of the State's total energy requirements, compared to about 20% last year. While this would be a significant improvement, it means that for the foreseeable future 65-70% of the State's energy must be met from oil and gas, both of which are in short supply domestically and will probably remain so for the next 12 years.

I would therefore like to focus my remarks about the future of energy primarily on the availability of these two fuels. Obviously, their availability cannot be analyzed in terms of New York State requirements. New York can expect to have access to domestic interstate gas supplies on about the same basis as other states. Access to imported gas will be determined primarily by foreign availability and U.S. national policy. However, State and even local policy will play a part in determining access to gas imports in liquid form, since the receiving and conversion installations required for this gas are subject to state and local approval.

Domestic oil, too, will be available to New York on the same basis as it is to other states. This also applies to imported oil. However, since New York imports more refined products than any other State, our dependency on foreign oil is somewhat different from that of the states to the west of us in that we have to rely much more on foreign refineries than they do. State policy has no impact on this, unless someone wants to build a refinery here.

Now let us look at the availabilities of gas and oil on a national level, since this will largely determine how much is available for New York State.

As we know, the domestic gas shortage of the first half of 1977 has more recently turned into a mini gas surplus. During

the first half of this year U.S. gas demand has increased significantly over last year, perhaps as much as 6-7%, yet gas supplies are far from being strained. I believe this is due largely to special circumstances and does not signal the end of the U.S. gas problem. Excluding Alaska, our total proved gas reserves have declined every year since 1969 because in each year we have produced more gas than we have found. There is no indication that this trend is about to reverse itself, although the future rate of decline may be slower than that of the period 1973-77 when gas production dropped by 14% in four years.

If total gas supplies are to be at least maintained at their current level we must bring in supplemental sources such as Alaskan gas, synthetic gas and imported gas. Within limits, we should be able to do this. A specific plan exists to bring in gas from Alaska by the early or mid-1980's. New gas finds in Canada, apparently of substantial quantities, may provide for a continuation of the current level of one trillion cubic feet annually of Canadian exports to the U.S. which accounts for 5% of our total gas requirements. Gas from Mexico may eventually come here if U.S. domestic politics and foreign national pride can both be subordinated to the true long term commercial interests of the two parties. Gas from overseas in liquid form is likely to become available in increasing quantities as the gas potential of the major oil exporting countries is beginning to be commercially

developed. Its future price is likely to be very high compared to current U.S. gas prices but it may not be higher than that of non-conventional domestic gas which we will need to help maintain our level of supplies.

It is not possible to talk about natural gas at this time without some reference to the so-called Compromise Natural Gas Bill which has miraculously survived several public burials and has now a fair chance to become law. As you know, the bill is somewhat unique in that it has been criticized with equal vehemence by consumer advocates and producer spokesmen. This could mean that it is all bad or that it is reasonably well balanced. The bill will certainly make the price of gas higher over a period of years than if the present pricing system were maintained without change. However, it is highly unlikely that the present pricing system would remain unchanged, even in the the absence of any Congressional action. Passage of the bill may not generate as much additional production as the Administration has estimated but the actual additional volume is still likely to be significant. Passage of the bill would certainly increase supplies for the interstate market, since it would raise the economic motivation of selling newly found intrastate gas in the interstate market and decrease the existing economic motivation to keep such gas in the intrastate market, both relative to each other. The

bill also contains special provisions for Alaskan gas which make it more likely that the \$10 billion Alaskan gas pipeline project will get under way in the foreseeable future.

To sum up my view on the U.S. natural gas outlook, I believe the current annual consumption of about 20 trillion cubic feet can approximately be maintained, within a range of one trillion cubic feet in either direction, over the next 10-12 years. But the cost to all consumers will be substantially higher in real terms than it is today. I might add that maintenance of total gas supplies at no more than the present level means that other energy sources will have to increase that much more rapidly because our total energy demand will probably grow at an annual rate of 2.0-2.5% over the next 12 years.

Now let us look at oil supplies. Domestic production of crude oil and natural gas liquids has been declining steadily from 1970 to 1977. This year has seen a turnaround in the trend, due entirely to the production increase in Alaska. Since Alaskan output has now achieved a temporary peak, no further increase in total U.S. production can be expected next year. In fact, there may even be another decline but it would be a very small one. Domestic production outside Alaska will probably continue to decline at a slow but steady rate between now and 1990. Alaskan output, on the other hand, is likely to be increased to the full 2 million b/d potential of the Alaskan pipeline by about 1985. This should at least offset the decline in the rest of the nation and

could even bring about a marginal increase in total production. From about 1985 on a small but growing volume of synthetic oil, mainly shale oil, may become available so that by 1990 total domestic oil supplies may be within a few percent either way of this year's 10.4 million b/d supplies.

This means that all or nearly all the increase in U.S. oil requirements will have come from foreign sources. Fortunately, these requirements are likely to grow at a very slow rate because of a combination of governmentally mandated or price induced energy conservation as well as the displacement of some oil by coal and nuclear power in the industrial and electric utility sectors. Altogether, we expect U.S. oil demand to grow at a rate of about 1% a year between now and 1990, with a faster rate in the first half of the period than in the second.

This means that U.S. oil imports for consumption will have to grow from this year's level of 8 million b/d to at least 9.5 million b/d by the mid-1980's and to 10-10.5 million b/d by 1990. It may be worth pointing out that our mid-eighties number of 9.5 million b/d is only moderately above President Carter's promise at the Bonn Summit Conference last June that by 1985 U.S. oil imports would be reduced by 2.5 million b/d from what they would have been in the absence of any action by his government. The original National Energy Plan had projected an import level of

11.5 million b/d by 1985 in the absence of any government action.

This brings me to the bottom line question: will 9.5-10.5 million b/d of foreign oil be available to the U.S. throughout the 1980's? The answer is of course exceedingly complex since it encompasses economic, political, strategic and geological considerations, all of which are speculative by definition.

Still, some points can be made about the availability of our projected volume of imports. For one thing, the forecast volumes for 1985 and 1990 do not require a vast increase from this year's level of 8 million b/d or last year's 8.7 million b/d. However, the U.S. is of course not the only country which will require additional imports during the 1980's. The availability of our import requirements will thus depend to a large extent on the import needs of other countries.

As I have said, our own oil demand is expected to increase at a very slow average rate, about 1% per year over the next 12 years. If Europe's average oil demand increase can be kept to no more than twice that rate and Japan's to about 3.5% annually, our projected oil import requirements should be available at constant or only slightly rising real prices. Let me clarify this last statement: I'm not predicting how prices will actually move under the outlined scenario. I'm just saying that market forces will not exert strong upward pressure on prices under it. As we



have learned, there are also other factors affecting world price determination.

Our assumed growth for European and Japanese oil demand is drastically lower than the long-term pre-1973 rates for both areas. Nevertheless, they may not be unrealistic under the very different economic conditions, particularly in regards to oil prices and demand, the world has experienced since 1973. It may be interesting to point out in this connection that in the latest 5-year period (1973-78) non-Communist world oil demand has grown at an annual rate of only 1.4%--one fifth of the growth rate of the previous five years. Over the next 10-12 years, world oil demand could grow at nearly twice that rate without a physical or technical strain on supply sources.

However, to keep demand here and abroad from exceeding these much reduced growth rates will not be an easy task. It will require considerably more government planning, economic incentives, business risks, research efforts and environmental concessions than could be expected under "business-as-usual" conditions. Some of these activities are already under way. If we maintain and expand them, the specter of an energy crisis is unlikely to turn into reality in our time.