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**WORLD PETROLEUM OUTLOOK FOR  
THE EARLY 1990'S**

**by**

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My assignment is to discuss oil industry trends to the mid-1990's. I'm sure you have already heard, and probably made, forecasts for this period. All forecasts are by definition judgmental and individual. Hence they all differ from each other. While these differences are important, forecasts move within a broad band of what has become known as "consensus" forecasts. Forecasts outside this band are termed "contrarian." I leave it up to you to determine into which category my analysis falls. It is really more a scenario than a forecast. But I would like to make a few comments on consensus forecasts.

As you know, there is a consensus view within the industry that consensus forecasts generally turn out to be wrong. There are historic examples to support this consensus view. In some cases they have gone wrong because of unpredicted and unpredictable extraneous events, such as war and revolution. However, consensus forecasts also have a built-in self-destruction mechanism whose effectiveness is in direct relation to the degree of consensus acceptance. The reason is obvious. If most firms agree on a certain trend or development they will individually adopt strategies which collectively are likely to alter the projected course over time. However, this does not invalidate forecasts which fall within the consensus range. On the contrary, the fact that different experts arrive separately and individually at broadly similar conclusions is a confirmation that they are likely to read the future correctly, as it appears at the time of the forecast. It is important for companies to know this view and comprehend the reasons and assumptions underlying it.

Now to my analysis. I would like to start with a discussion of the outlook for crude prices because it forms the basis for all other projections. In the period to 1995, and probably longer, the world price will be determined by the interaction of the OPEC cartel and market forces, much as it is right now. Thus, we are very unlikely to see a return to the 1973-75 and 1979-81 periods when OPEC set and maintained prices without regard for the reality of the market. Nor is there likely to be a return to the 6-months period in 1986 when the market took over almost completely, depressing the average world oil price to below \$11, with further declines certain if OPEC had not reconstituted itself.

One quite plausible scenario within this range is a slow modest upward movement in the world oil price, probably starting next year. The increases are likely to be less than the world inflation rate until 1990 and slightly faster thereafter. I won't attempt to predict a specific price for 1995, but directionally the real price in that year will still be significantly below the 1985 price but significantly above the 1987 price.

Prices will rise during this period not because supply and demand forces require it, but primarily because OPEC will regain more of its strength. However by 1995 it will still not be as strong as it was in 1985, the last and weakest year of its market domination when prices had already dropped by \$10 (nominal) from their 1981 peak year. Probably, the trend I have just described will not follow a smooth path. The cartel and the market will

battle it out all along the way, with the result that price volatility will often mask the underlying trend.

What is the rationale for this price path? A principal factor is that for the foreseeable future OPEC will have to cope with substantial excess producing capacity. From 1973 through 1981 the cartel had virtually no available excess capacity, nor did any other oil exporter. This was the key factor in OPEC's pricing power during that period. I believe OPEC will not even attempt to raise prices "excessively" between now and 1995. The reason is the publicly acknowledged recognition by at least 3 of OPEC's Persian Gulf super powers (Saudi Arabia, Kuwait, Abu Dhabi) that the long term interest of their countries, whose current reserves/production ratios are over 100 years, are better served by maintenance and eventual expansion of market shares than by price maximization at the risk of permanently losing market shares. Having had a dramatic demonstration in the 1981-85 period of how much and how quickly market share can be lost when prices remain excessive, and having seen in the 27 months since the big price break how difficult it is to regain the losses, OPEC's pricing policy in the first half of the 1990's will not be a repetition of the 1970's, almost regardless of commercial circumstances.

However, even the super price doves in OPEC recognize that modest price increases are not only feasible but essential if the cartel is to maintain any effective solidarity, since for some members the ability to raise revenues through expansion of market share is quite limited. Hence, we can expect an irregular but persistent upward trend in prices from next year on, despite the

cartel's continuing surplus and continuing ability to meet all demand requirements at substantially lower prices.

What market trends to 1995 can we expect under this price scenario? In broad terms, a modest increase in world oil demand (about half of total energy growth); continued growth in non-OPEC supplies for the next few years (but slower than in the 1979-85 period), followed by leveling off at the beginning of the 1990's and a decline somewhat later; a steady increase in OPEC's world market share after 1988, with the bulk of the increase in the 1990's coming from the Middle East. Among major foreign markets, Europe and Japan will have very little increase in oil demand because of the continuing inroads of other fuels (nuclear power and natural gas) into the stationary oil market. The developing countries, other than OPEC (which can supply its growth out of its own shut-in excess production), will register the most rapid growth rate, perhaps 2% annually, from their current 9.5 million B/D.

In all major foreign industrial countries residual fuel oil demand will decline while light products demand will rise. In the developing countries, both light and heavy oil products will register a growth. But fuel substitution will be at work there, too, so that demand will grow much faster for light products than for heavy fuel oil in these countries.

Now let us briefly turn to the U.S. market. The basic trends for the period under discussion are more or less undisputed. There are very few "contrarian" forecasts to challenge the predictions that demand will rise, domestic

production will fall and import dependency and volume will grow. All of these developments have been with us since 1986 and all represent trend changes from the first half of the 1980's. Oil demand, which had declined from 1980 to 1985, rose 2.7% in 1986, 1.7% in 1987 and will probably rise by somewhat less than 1% this year. Crude oil production which had risen slightly in the first half of the decade, fell by about 300 MB/D in 1986, 400 MB/D in 1987 and is likely to fall by 200 MB/D this year. Oil imports which had dropped by nearly a million B/D in the first half of the decade, rose by about the same amount in 1986, by a further 300 MB/D in 1987 and will probably rise by 300-400 MB/D this year.

Among major products, U.S. gasoline demand will show very little increase between 1987 and 1995 because improvements in automobile engine efficiency will offset growth in the mileage and number of vehicles. Jet fuel demand will maintain a rapid growth rate throughout the period. Middle distillate demand will rise at an annual rate of 1.5-2.0% due to increases in transportation, electric utility and industrial demand. Residual fuel oil demand which has fallen steadily from 1978 to 1985 and resumed its fall in 1987, will probably start rising within two or three years and maintain the rise to 1995, primarily due to increased demand by electric utilities.

Altogether, total U.S. oil demand should be at least one million B/D higher in 1995 than in 1987. While this could be considered a very modest increase over an 8-year period -- about 0.7% per year -- most of the volume increase will be in products other than residual fuel oil, a by-product for U.S. refiners.

Where will the additional products come from? In 1984-85 there was concern within the U.S. refining industry about OPEC oil companies building up their export refining capacity for light products, blending stocks and unfinished oils, in the face of a declining world market for these products. It was feared that in due course OPEC exports would displace domestic products in the U.S. and elsewhere. There was, indeed, a substantial increase -- 175 MB/D or 56% -- between 1984 and 1986 in the importation of products other than residual from OPEC to the U.S. However, it was largely offset by reductions in imports from other sources so that total imports of these products rose by only 58 MB/D or 3.4% in these two years. In 1987, both OPEC and non-OPEC imports of these products declined slightly despite rising U.S. demand.

A similar pattern was evidenced in Europe where OPEC imports of products other than residual rose sharply in 1985 but have remained flat in the two subsequent years. Only in Japan are we seeing a continuing strong growth in the importation of these categories of oil products from OPEC plus a lesser but still significant growth from other sources. This reflects of course a policy decision in Japan to open up the domestic market. Without this outlet provided by Japan, the pressure for OPEC oil products to enter the U.S. and Europe would have been much stronger.

U.S. oil refineries don't have much spare capacity, particularly in their downstream conversion units. Hence, some additional imports of light products, blending stocks, etc. are likely over the next eight years. How much these imports will

rise is largely a function of U.S. government policy in the area of environmental action. The more the domestic refiners are required to reduce gasoline volatility and the sulfur content of middle distillates, the less will they be able to increase, or even maintain, their output of these products and the more will imports have to fill the gap.

Among the sources for these additional supplies, Canada will be put in a preferential position when the U.S. - Canadian Trade Agreement, which eliminates all oil import duties, is implemented. For transportation fuels this means 52 cents/bbl. If some of Eastern Canada's substantial shut-down refinery capacity can be reactivated under the new conditions, Canadian products exports could back out some other imports into the North East.

Regarding shipments from OPEC, it appears that a growing number of the cartel members are opting for a different strategy: buying existing refineries and other downstream assets in consuming countries, either alone or in partnership with the present owners. The new strategy has been successfully implemented in the U.S. and Europe and there is every indication that there will be more such deals, and not only in these two markets. The OPEC companies rationale for adopting this strategy is sound and quite clear: it is far cheaper to buy existing plants in consuming countries than to build new ones in producing countries; it is generally cheaper to ship crude oil by tanker than light products; since products imports can be, and frequently are, curtailed by governmental action to protect the domestic refining industry, it is better to join the domestic



refining industry than to compete with it from abroad; in an oversupplied crude market, controlled crude oil outlets are very desirable, as every major oil company has known for the past 50 years.

Quite understandably, some U.S. refiners are uneasy about the new "domestic" competition. They fear that the OPEC owners or partners may subsidize their domestic downstream operations out of their foreign upstream earnings. It has been done before and could be done again. However, unless the OPEC-controlled refiner is intent to continuously increase its market share, which would be difficult under the OPEC crude quota system, it has no reason to give away downstream earnings to undersell its non-OPEC competitor. In fact, such a products price strategy, if effective, is bound to reduce the price of crude oil, given the close interaction between crude and products prices. For this and other reasons, the new OPEC refineries are more likely to be products price takers than price makers.

In closing let me remind you that the projections I have made are not a forecast but a plausible scenario. Extraneous military, political or economic events could easily accelerate or decelerate the trends I have described. I doubt, however, that any circumstance could reverse these trends. Thus, the demand for oil products should continue to grow in the U.S. and abroad. Over time this is bound to improve your margins. The question is, how long can you wait?