Europe, have been closing. Downstream (i.e., refining and marketing) profit margins have, until recently, been lower than they have been for decades. As the OPEC countries ship more refined petroleum, the need for refineries elsewhere diminishes. This fact concerned officials from the oil companies and members of the federal and provincial governments last September at an oil and gas markets conference held in Calgary.

The situation with respect to refining is a reflection of the major changes which have taken place in the international petroleum industry. The traditional fully-integrated approach which was once the standard method of operation for the international oil companies is now largely a thing of the past. There have been significant reductions in those companies' access to equity oil. This development is a direct outcome of the OPEC countries asserting their sovereignty over their natural resources, especially petroleum, in the early 1970s. Coupled with that change, some would say revolution, has been the rise in importance of the national oil companies of the OPEC countries.

These national oil companies' refineries are new, state-of-the-art plants which are profitable and capable of producing the products currently being demanded. The nature of these products has undergone large changes since 1973, marked by a continuing movement towards a whiter barrel, while the demand for fuel oil has been almost cut in half. Canadian demand has followed this trend, but with an even greater reduction in the demand for fuel oil.

These developments have meant that the downstream operations of the major oil companies have had to show a profit in their operations or be closed. With the increased refining capacity in the OPEC countries a situation of overcapacity, and therefore intense competition, has arisen. The result has been steadily falling refinery utilizations from around 90 percent in 1973 to a world average of approximately 75 percent today. In 1984 Canada's utilization rate was down to 82 percent.

In addition to building refineries in their own countries, the OPEC countries have recently acquired refineries in consuming countries. The purpose of these new refineries is to ensure "security of outlet" for their production. It is one more step in their long-term efforts to reduce their dependence upon foreign-owned corporations.

Economics of oil

We are finding less oil in the world every year. What oil we do find is more expensive. The cost of producing oil in the OPEC countries is the lowest in the world. This gives the OPEC countries an unbeatable advantage in selling oil. The market price of oil probably will not rise very much until after 1990 because several non-OPEC countries are producing oil as fast as they can. This has caused a surplus, resulting in a decrease in the real price of oil. Great Britain is a good example of this. But it will run out of this oil in about ten years. At the same time the demand for oil has temporarily fallen because of the recession and also because of conservation. Therefore, the price of oil now is low, due to this relatively high supply and low demand.

But what will be the situation after, say, 1990? If you look at the projections of the major international oil firms they all agree. The world will be forced after the early 1990s to rely upon OPEC countries for most of its oil supplies. Even now OPEC oil reserves are more than two-thirds of the world's proven reserves. When the oil in the North Sea and less productive areas runs out, that will leave OPEC as the primary supplier for the international petroluem market.

In the years immediately following the Iranian Revolution the international demand for both oil and gas declined for several years. As a result of that decline excess production capacity developed. This, in turn, has led to increased competition among energy producers. More recently, as a response to lower energy prices and a resurgence of economic growth, the demand for all forms of energy is again growing steadily. The worldwide demand for energy of all forms was approximately 96 million barrels per day of oil equivalent in 1984. That is expected to increase to approximately 108 million barrels per day in 1990 and reach 128 million barrels per day by the year 2000.

Many projections of the world demand for oil place the growth rate at 1 percent per year. Two-thirds of that growth is anticipated to come from the developing countries. This implies that the world oil demand will grow from approximately 46 million barrels per day in 1984 to 49 million barrels per day in 1990 and reach a demand of about 54 million barrels per day in the year 2000.

Demand turning around

Because of the dramatic increase in the price of oil during the decade of the 1970s the increase in the demand for oil has been reduced. The restraint in the demand for oil is also a result of the worldwide recession affecting the Western industrialized countries. That recession is now moderating, and the increasing economic vitality is now coupled with a decline in the real price of oil of more than 20 percent since 1981. This economic prosperity when added to the diminished real price of oil has again produced an increase in the demand for oil.

The increase in the demand for oil is not being experienced primarily in the developed world. There the effects of conservation have been noticeable. New cars are more energy efficient than older models. There has been an increase in the use of coal for energy generation. In Europe nuclear generation of power continues to increase. More projects of this type are under construction.

The situation is significantly different in the developing countries. There capital intensive alternatives to oil are not as prevalent. One reason is the large external debts of many of those countries. Those debts render the possibility of obtaining foreign loans to finance new, non-oil power plants extremely difficult, if not impossible. Also, where such loans are possible, the high interest rates applied to them make such potential investments impractical from an economic point of view. Even so, in the developing countries the demand for oil will decline as a share of energy use because of the necessity to restrict to a minimum the use of those countries' very limited quantities of foreign exchange.

OPEC reserves solid

It is when we examine the future supply of petroleum that the crucial future importance of the OPEC countries becomes obvious. The supply of oil from non-OPEC countries will peak within the next few years. At the same time