

SUMMARY

In spite of the importance of the issue, uncertainties about world supplies of oil from conventional sources during the next two decades are surprisingly large. Nevertheless, it is highly likely that there will be little or no increase in world production of oil from conventional sources. Prudent planning should consider this possibility.

Oil production in the industrialized non-Communist world could begin to decline by the early 1980's. While it may be physically possible to increase world production of oil significantly (perhaps 33%) by the 1990's, substantial increases are extremely unlikely because the nations capable of contributing to such an increase have no financial or political incentive to do so and because a number of practical problems would arise if a significant increase in production were attempted.

Enough is known about world oil supplies to make a few specific observations:

(1) Assuming political stability in the major exporters, non-Communist world oil supply is likely to range between 45-60 MBD* in 1985 and 40-60 MBD in 2000 (compared to 52 MBD in 1979). The sizes of potential increases in Saudi Arabia, Mexico, and Iraq and of the decrease in the United States account for a major portion of the variation in production possibilities (10 MBD or approximately 50% of the variation in the year 2000).

* Throughout this paper oil production will be given in millions of (42 gallon) barrels per day (MBD). Unless otherwise specified, oil production will include liquids associated with production of natural gas.

(2) As a group, the non-Communist industrialized countries will experience no significant increase in production. In fact, production in these countries may decrease by as much as 50% by the year 2000.

(3) In the short term, U.S. production may decline from its current level of 10.2 MBD to a level of 7.2-8.5 MBD in 1985. Production in the year 2000 may range between 4-7 MBD. The high estimate for the year 2000 (7 MBD) depends on both the annual addition of 1 billion barrels to proven reserves and the extensive use of enhanced recovery techniques.

(4) OPEC production during the next 20 years will not differ significantly from its current level of 31 MBD. Any increases in the production rate will be strongly dependent upon Arab OPEC producers. Except for Iran, only Saudi Arabia, Kuwait, and United Arab Emirates have the reserves and Iraq the estimated potential to increase production rates. Substantial dependence on Arab OPEC (the Persian Gulf region) is likely to continue with its obvious implications for foreign policy. In particular, Saudi Arabia retains its central position in OPEC. Although the Saudis have reserves which could permit an increase in production capacity to 16 MBD, they have announced their intentions to not exceed a maximum sustainable capacity of 12 MBD, and plan to reach this level of capacity in 1987 at the earliest.

(5) Although production in the non-OPEC less developed countries (LDC's) will increase above its current level (principally as a result of increases in Mexican production), much, if not all, of the increase in LDC oil supply will be offset by increases in LDC demand.

(6) The Communist countries may cease being a net exporter of oil to the free world by the early 1980's as a result of declines in Soviet production. The increased pressure caused by the entry of the Eastern European countries (currently more than 80% dependent on the Soviet Union for their imported source of oil) and conceivably the Soviet Union itself as buyers on the world oil market has serious implications both for price and foreign policy. While the Soviet Union has potentially promising areas for increases in oil production, most of the petroleum "frontier" Soviet areas lie either north of the Arctic Circle or in deep water where drilling is expensive and slow; development is at least a decade away. Many technical difficulties have already been encountered and it appears that the Soviets have not accumulated enough technology or experience to develop these areas rapidly. The Office of Technology Assessment has a study underway of the contributions which U.S. and other Western technologies could make to Soviet oil production.

(7) In addition to Mexico, some new large discoveries are possible outside the Middle East, but there appears little possibility that the Middle East oil fields will be duplicated elsewhere. All promising areas for large discoveries outside the Middle East are either in the Arctic or involve areas of territorial dispute (the Malvinas basin off the Falkland Islands and the South China Sea). Even under optimistic discovery assumptions, it is unlikely that substantial production from new sources will occur in this decade. Because of the remoteness of most prospective areas, there would be a considerable delay between the time of discovery and significant production from any new discoveries in these areas.

(8) Major additions to the world's known oil supplies are likely to result from additional recovery in known fields rather than new field discoveries. These new additions are not expected to alter the dominance of the Middle East since over half of the new additions are expected to be in the Middle East. Moreover, the world distribution of ultimately recoverable oil is not believed to differ significantly from the known distribution today.

(9) There is some speculation regarding the petroleum potential of the deep ocean areas and Antarctica. The technology and the price of oil are not sufficient now to encourage active exploration and development of either of these regions. Future development of these areas may also necessitate new international agreements.