## INTERNATIONAL ATTITUDES TOWARD THE FUTURE OF NATURAL PETROLEUM

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## **ABSTRACT**

A Conference concerned with the Future of Natural Petroleum was held in Laxenburg, Austria, July 5-16, 1976. Sponsored and organized by UNITAR and IIASA, the meeting brought together seventy-five participants from fourteen countries. Thirty-six were from the U.S.A.

In the early 70's, due to OPEC's new strategy and due to warnings of the Club of Rome, the attention of people of the world came suddenly to focus on the physical limits of energy resources and all unreplenishable natural resources. Sudden and sweeping conclusions were reached by many based on incomplete data and understanding of the many facets of the problem. The loudest voices, not necessarily the best informed, gained wide exposure and many basic misunderstandings make up todays harvest. Many inept public policies and investment decisions have resulted. The workshop was to assess the status of petroleum exploration and production technology worldwide, and on that basis to discuss future options and alternatives. Fifty-seven papers prepared for the meeting and discussed by authors have been published by Pergamon Press, edited by Richard Meyer under the title, "The Future Supply of Nature-Made Petroleum and Gas." The discussions, as Proceedings, may be published later.

Four general conclusions emerged from the discussions:

- 1. There is no dearth of petroleum remaining in the earth. Distribution and dislocation shortfalls result from economic, institutional, and political forces.
- 2. New emerging technologies can augment supplies of natural petroleum from conventional sources.
- 3. There is a huge potential for additional petroleum resources from unconventional

sources widely distributed over the earth. Examples: heavy oil sands of Canada and Venezuela, tight gas sands of U.S., oil shales of France, USSR, and USA. The key is costprice.

4. Petroleum extraction technology has traditionally produced the easiest and least expensive. Advances in technology have progressed, except where retarded by nontechnical barriers.

The urgency to seek new petroleum accumulations was reflected at various levels by the participants. These attitudes were directly related to the supply and demand status of the country from which the participant came. The self-sufficiency of USSR inspired principal interest in extraction technology, transportation and pipelines, as well as, generalized studies of the occurrence of oil in other parts of the world. OPEC countries seemed painfully aware of the finite resources they have and were interested in prices that express the intrinsic value of oil. and in "Noble uses" and other conservation approaches which would lengthen the period of possible world supply. Undeveloped countries were interested in technology transfer and any help they might get in finding new reserves. European countries seemed very concerned with the political influence that U.S. future actions would excite in the world petroleum market. The U.S.A. participants were concerned about the economic restraints upon successful application of extraction technology, and the political and sociological barriers that slow the processes of finding and using new reserves. It seemed clear that we are not doing all we can do and must do to keep our "invisible crisis" from becoming political and economic chaos.