

Ultimate reserves, on the other hand, represent the total volume of liquid petroleum which experts estimate will eventually be produced in this country. Just last year, the U.S. Geological Survey estimated that approximately 1 trillion barrels of crude oil and 75 billion barrels of natural gas liquids may eventually be found in this country through exploration. How much of this total will actually prove to be economically recoverable remains to be seen, but the Geological Survey estimates that at least 40 percent will eventually be brought to the surface. Thus, with liquid hydrocarbon production running at about 3.2 billion barrels per year, it is apparent why the Interior Department in their "An Appraisal of the Petroleum Industry of the United States," issued in January 1965 stated that "on the basis of these cold figures, it would appear that the United States is in no danger of running out of oil for many years."

Of course, in addition to conventional crude oil and natural gas liquid reserves, the shale deposits in the Green River formation in Colorado, Utah, and Wyoming will undoubtedly one day supplement our present sources of petroleum hydrocarbons. Experts currently estimate that the oil shale deposits in the United States represent a total of 2 trillion barrels of oil in place. And, besides these shale deposits, there are also the tar sand reserves in Canada which may contain an additional 600 billion barrels of petroleum energy.

While it is true that oil and natural gas are important sources of chemical raw materials, it should be pointed out that their manufacture is not being jeopardized by the continued consumption of liquid petroleum as a fuel. Currently, some 80 billion pounds of petrochemicals are being produced in this country—about 35 percent of the total organic chemicals manufactured in the United States. But the manufacture of these petrochemicals requires less than 5 percent of the crude oil we currently refine.

The remainder of our refined crude is primarily turned into fuel, both for heating and transportation. These are areas where petroleum has thus far proved to be the most economic and efficient fuel. Coal has already lost much of the residential heating and transportation markets—having been replaced by gas and oil. And as for atomic energy, AEC experts themselves admit that nuclear power cannot effectively and economically compete with petroleum as a fuel in motor vehicles or aircraft, or in the heating field—safety factors, the necessity of protective shields, and expense seem to rule out these markets for nuclear power. Just this past June, as a matter of fact, Dr. Glenn T. Seaborg, Chairman of the U.S. Atomic Energy Commission, had the following to say when addressing a meeting of the National Association of Manufacturers:

Nuclear energy will be used increasingly for those purposes to which it is best suited—the large-scale production of electricity. Other energy sources will find their growing uses in those areas to which they are best suited.

Thus, it seems apparent that liquid hydrocarbons will continue to be the prime supplier of our Nation's energy, as well as the raw material from which much of our organic chemicals are derived. Reserves appear adequate to meet both needs for many, many years to come.

Experience indicates that competition among fuels has stimulated the increased use of energy in this country and thus our economic