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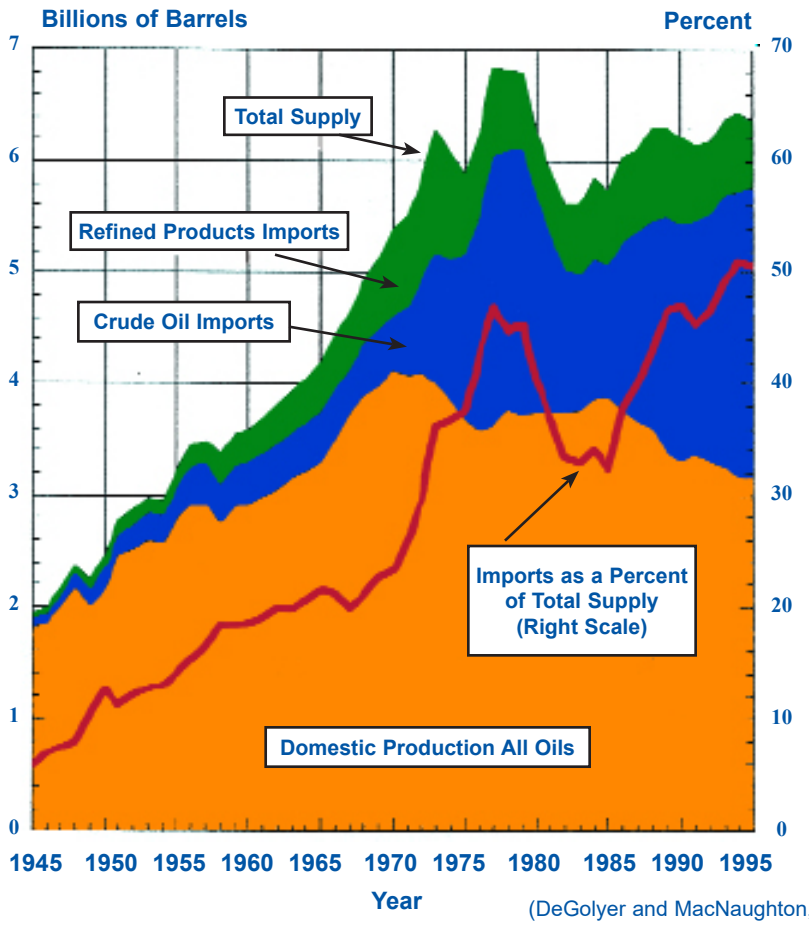
The Value of Petroleum Resources to our National Economy

The United States depends on many mineral commodities which it once exported.[1] High costs of mining and production, and in certain instances, a lack of local supply, make it more economically sound to import many resources from countries where production is not so expensive. According to the United States Geological Survey, mineral imports exceeded exports by about $29 billion dollars in the year 2000.[1] In addition to industrial materials, the U.S. depends heavily on the foreign market for petroleum resources used in the production of energy. In fact, petroleum imports alone are responsible for generating 1/3 of the U.S. trade deficit.[2]

Most of the world's energy is produced by burning fossil fuels (coal, oil, natural gas), and so they are an invaluable resource in a global market. Fossil fuels cannot be reused or regenerated, and so are said to be non-renewable. With current estimates placing the complete exhaustion of *non-renewable* fossil fuels within the next 40 years, some effort has been made in looking at ways to efficiently and cost-effectively utilize those resources which are *renewable*, like solar, wind, and water. However, since in the year 2000, the United States only saw renewable energy use constituting 6.5 percent of total energy consumption, it is obvious that we have a long way to go.[2] We are still very much caught up in the "age of petroleum," and our immediate future demands an ample supply of coal, oil, and natural gas.

United States Total Production, Imports and Annual Supply



(DeGolyer and MacNaughton, 1996)

PETROLEUM – "Black Gold"

Both oil and natural gas are petroleum products, which are formed from decayed plant and animal remains. Petroleum is most commonly found in a liquid state, as *oil*, but it can also occur in a gaseous phase, which we call *natural gas*.

In the United States, petroleum accounts for more than 60% of total energy production, and over 96% of the energy used in all modes of transportation.[3] Even though the U.S. is ranked third in the world in oil production, a little more than half (52%) of the 17 million barrels of oil consumed in the year 2000 had to be imported.[2]

THE BIG THREE

Oil, gas, and coal resources (in the ground) are classified in terms of *reserves*, those which have been positively identified, and *resources*, which include both reserves and probable supplies.

The volume of crude oil reserves worldwide is estimated at 1.1 trillion barrels (one barrel is equivalent to 159 liters).[3] In 2001, the United States had 22 billion barrels of proved oil reserves, twelfth highest in the world, primarily concentrated in 4 states: Texas, Alaska, California, and Louisiana. Most (nearly 65%) of the world's crude oil reserves are controlled by the Organization of Petroleum Exporting Countries (OPEC).[3]

Total proven natural gas reserves of the world are placed at around 4.9 trillion cubic feet.[3] Gas reserves in the United States are believed to exceed oil by nearly 380 percent.[2]

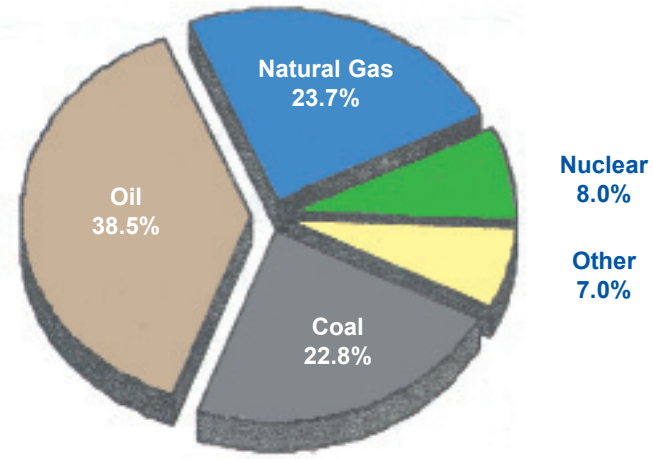
In the 1900's, coal was our Nation's major source of energy,[4] and although the cheapest source of power-fuel per million Btu today,[5] its use has declined considerably since the 1950's with the introduction of cleaner burning fuels like natural gas.[3] Even so, coal remains our Nation's leading mining industry (based on value of production), and in 2001, 1.1 billion tons were yielded, making it the only energy source for which exports are still greater than imports.[4]

The abundance of coal reserves in the world is hundreds of times greater than the present rate of annual consumption. In the U.S., the burning of coal accounts for about one-third of total energy production, used primarily for generating electricity.

Domestic production of crude oil in the United States peaked in the 1970's, and has been declining ever since.[3] The U.S. is presently the world's highest-cost oil producer because most of its low-cost, relatively easily accessible, reserves have been depleted; the remaining supplies are located in such small quantities, or in difficult and costly to access regions (like ANWR in Alaska), that it is much cheaper to import oil from the middle east.[3]

Concerns about the role of petroleum in the economic future of the United States continue to grow as trends in decreasing supply, increasing demand, and rising costs of production are seen.

U.S. Energy Consumption by Source, 2000



Source: DOE/EIA

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OF INTEREST

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