

come under attack, and in many states, building programs for new power station have been held up because of safety reasons.

- Moreover, CO<sub>2</sub> emission control from major fuels is recognized as the essential issue related to the greenhouse effect, especially since demand for energy increasing.

Concern over worlds' diminishing energy resources coupled with a growing awareness of the need to protect the environment, led to an upsurge interest in natural gas and construction of special natural gas carriers.

These conflicting demands for more energy and cleaner environment present a considerable problem and natural gas promises to solve both of them, thus it was known as a glamour fuel of 1970's.

Until well into the 20th century, it was considered a nuisance and a by-product of crude oil production. Only when in remote areas of Wyoming, huge reserves of gas were discovered, nobody thought it was one of the energies with a more than promising future. The proven reserves of natural gas at the end of 2001 amounted to 170 trillion cubic meter, which are equivalent to 153-milliard toe. The petroleum reserves at the same date, amounted to 142.6 milliard toe, so, we see that the usable reserves of gas are higher than those ones of petroleum.

### **1.10 Need For Transportation:**

- By geographic areas, it is found in particular that,
- The former USSR, found particularly, the Russian Federation and Turkmenistan have nearly one third of the world reserves.
- Iran, Qatar, Australia, Papua New Guinea, the United States, and in Africa; Algeria, Nigeria, Libya and Egypt gather more than 90% of the proven reserves of this continent.
- The OPEC countries have 45% of the world natural gas resources, much lower that those they have in crude oil reserves, which amount to 78%.
- Moreover, there are large reserves of natural gas in areas for which there is no significant market. Such hydrocarbon reserves are stranded in North Africa, West Africa, South America, Caribbean, the Middle East, Indonesia, Malaysia, Northwestern Australia and Alaska. In addition, markets for these natural gases include Japan, Taiwan, Korea, Europe and the U.S.

Therefore, there is a need for transportation of natural gases to areas where it is scarce from areas where it is in abundance.









































