III. RATIONALE FOR GOVERNMENT INVOLVEMENT

Energy is the key ingredient in our modern material civilization: yet without substantial government involvement it appears that the U. S. energy situation will become increasingly unstable. Progress and even existence is dependent on an adequate supply of fuel. For example, there is evidence to suggest that Japan entered the Second World War to secure its energy supply. It is difficult to over-emphasize the importance of maintaining an adequate and stable supply of energy.

The United States is rapidly evolving from a self-sufficient fuel position to one of dependence upon foreign oil. It is estimated that, without counter-action by the U. S., by 1985 over 50% of our oil will be imported, mainly from the Middle East. The recent use of oil as a political weapon by the Arabs is particularly disturbing. It is perhaps fortunate that this occurred when only 5% of our oil supply is coming from that part of the world. There is an urgent need to reverse the trend to dependence upon foreign sources for our energy supply. Our national security is a national responsibility and private industry is in no position to take this responsibility.

There is great uncertainty in the economic outlook for a synthetic fuel industry. Production costs for Middle East oil range from 15¢ to 25¢ per barrel; the price of oil is thus currently determined by what the market will stand. On the other hand, synthetic oil from coal and shale oil will have a production cost

of approximately $5 to $6 per barrel. It is apparent based upon these economic considerations that the synthetic or shale oil business could be virtually eliminated at the whim of the Middle East producers. Government regulations (which are subject to unpredictable variations) can also have a major impact upon fuel prices. With the huge capital cost involved in the plant to produce the synthetic fuel, the risk appears to be too high for substantial investment by private industry.

The high risk of fuel conversion technology is further accentuated by the technical uncertainties and high costs associated with many of the advanced technology programs. Thus private enterprise does not have the incentive to undertake the programs. Anti-trust laws also limit the ability of companies to work together. If resources are to be pooled and utilized effectively, it will most likely require government involvement. Associated with the high risk to these programs is also the long time for pay-off.

There is, furthermore, some basis to believe that there is actually a disincentive for energy companies to participate extensively in the development of improved energy conversion technology. This improved technology would assist with energy conservation which in turn would result in a slow growth rate of energy use. This decreased rate of energy use would have a tendency to limit the profitability of the energy companies.

In addition to the economic factors necessitating government involvement, there are broad social needs associated with energy technology. Fuel combustion is the main cause of air pollution and

is responsible for 80% or more of the known air pollutants. The Government should ensure that combustion is controlled so that the health and welfare of the people are protected. This should be accomplished without placing onerous burdens on affected industries.

Previous experience may serve as a guide for the nature of government participation. A crisis similar to the energy problem arose during the Second World War with respect to rubber. In a very short time a synthetic rubber industry capable of supplying the country had to be put in place under the direction of the Rubber Reserve Corporation.

To summarize, there are many factors in the energy problem which require government participation. These include national security, industrial and social well-being, uncertainty, high risk and urgency.