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Intertwined Societal Problems

The public is aware of problems with respect to the environment, energy, balance of payments, and national security. However, there does not seem to be general awareness of the extent to which these problems are intertwined.

The demand for clean energy has continued to grow, while reserves of natural gas and petroleum have diminished. Imports of hydrocarbons have expanded sharply and seem destined to increase much more. Already these imports are responsible for much of our deficit in the balance of payments. Continuation of present trends must lead to much deeper deficits, more devaluation, and massive loss of confidence in the dollar. At the same time, we are becoming vulnerable to petroleum blackmail.

The demand for clean energy has caused major shifts in the utilization of fuels. To the householder, electricity is the cleanest form of energy possible, and his use of it continues to increase. Emissions from the generating plants are someone else's problem. The utilities, under pressure to reduce sulfur dioxide pollution, have turned from coal to oil. Near the Atlantic coast, the number of electric generating stations burning coal has dropped sharply. In New York City, for the first time in 90 years, not one pound of coal is being burned by Consolidated Edison. Along the East coast during the period from 1968 to 1972, some 28 million tons of coal were displaced by oil from foreign sources.

The desire for clean energy has also increased the demand for natural gas, which is one of the most convenient and pollution-free forms of energy. However, gas distributing companies in many states are finding it necessary to refuse to serve new applicants. Last year, consumption of natural gas was 22 trillion cubic feet. Current reserves are 278 trillion cubic feet, and new discoveries fall far short of matching consumption.

A number of installations are now developing processes for obtaining methane from coal, but the level of effort hardly seems commensurate with the need. In addition, schemes are being implemented to import liquefied natural gas from North Africa. This procedure has the drawback of depending on sources that have not heretofore proved reliable.

Our major, and perhaps most vital, source of energy is petroleum and its various refined products. These materials provide 44 percent of our energy needs, but reserves and producing capacity are falling. In 1957, during the Suez crisis, we were able to supply our own needs and much of Europe's. Today, about 25 percent of our needs are supplied from abroad, and imports are increasing rapidly. Last year, total consumption of petroleum and its products was 5,523 million barrels. Reserves in the 48 contiguous states dropped to about 28,000 million barrels. New discoveries during the year contributed a trifling amount.

In the face of this deteriorating position, we are projecting increased consumption of gasoline. Schemes for controlling auto emissions entail losses in engine efficiency ranging in the neighborhood of 17 percent.

A continuation of our present trends in the utilization of energy and in growing dependence on foreign sources must lead to problems of unprecedented magnitude. We must place more emphasis on finding means of curtailing energy consumption while moving vigorously to develop acceptable substitutes for oil and natural gas.—PHILIP H. ABELSON

An excellent set of hearings on energy was conducted by the Committee on Interior and Insular Affairs of the House of Representatives under the chairmanship of Wayne N. Aspinall (D-Colo.). Committee prints will be available about mid-July from your congressman.