deficiencies must be reversed just as soon as possible. This means that it is incumbent upon us to encourage oil shale development immediately.

If we are to speak from a military point of view, the Department of Defense offers the most reliable and indeed the most startling information. The Department notes that jet fuel has accounted for almost all of the total energy requirement increase with other products remaining on virtually a plateau. As of September 22, 1966, the Department, speaking through J. J. Muir, stated:

"In the last and more recent invitations for domestic jet requirements . . . we are finding it difficult to get adequate coverage. While we know some of the reasons for this, such as returned overseas procurement and increased commercial jet demand, we feel it is important and serious."

Next, Mr. Muir points out that the military demand for fuels is not subject to spasmodic increases or decreases which can be tied to any particular military crisis. He says:

"First, is the ever increasing thirst for oil of our new weapons systems. For example, the First Cavalry Division now operating in South Vietnam consumes fuel three times that of a World War II or a Korean division. Also, the planes and ships of the Seventh Fleet operating off Vietnam, and the Guam-based B–52's supported by KC–135 refueling tankers, require many times the fuel of their predecessors.

"Secondly, and the important key, is the fact that modern military forces, whether on alert, training, or combat, consume substantially the same quantities of fuel.

"This is an interesting concept, one not generally understood, and certainly not a finite tool for future forecast—but the record over the past 17 years gives it a great deal of credibility.

"As a matter of fact, we have seen nothing on the horizon that will significantly change the trend . . . Information available today indicates that with few exceptions, military equipment will continue to derive energy from liquid petroleum and its products for some time to come.

"And any phase out of petroleum consuming weapons system should be more than offset by new and larger hydrocarbon hungry systems. Examples of these are the C–141 transports now coming into the system and the super C–5 transports scheduled for the 1970's."

In a word, then, it is clear that the energy requirements of our Military Establishment will be steadily increasing over the years ahead whether we be at war or at peace.

A similar situation obtains with respect to aluminum. The United States consumes about one-third of the world output of bauxite. Bauxite, as you know, is our only source of alumina at the present time. Most significant is the fact that about 90 percent of the bauxite used in this country must be imported.

Aluminum is an important key to the structuring of our entire complex economy. The United States has a greater per capita consumption of aluminum than any other country in the world, and the price of that metal has an effect on the price of steel, copper, magnesium, zinc, titanium, fiberglass, plastics, and so forth. Fortunately, the price of aluminum has remained relatively steady over the past few years, but this happy state of affairs is not due in any part to any policy determinations by our Federal Government. The basic fact remains that as long as we import over 86 percent of this raw material, we will have no control over the price of it. The copper market has not been so fortunate and we have witnessed the volatile rise or fall in copper caused in large part by political or military developments in foreign countries.

Let me speak for a moment of the strategic importance of aluminum. At one time, the use of aluminum in defense materials was about 1 pound in 12. While present estimates of strategic aluminum are not available, it is clear that an adequate supply of aluminum must be readily available for the entire economy in order to hold the line on prices of other metals. Historically, a 1-percent decrease in the price of aluminum relative to the composite price of copper, lead, and zinc, has increased the consumption of aluminum by 1.4 percent. An increase in the price of aluminum caused possibly by action within the raw material producing country could unleash serious inflationary forces. A shortage of aluminum could create demands for other metals needed elsewhere in defense, and thus set up additional inflationary forces.

Under wartime conditions, either a price increase and/or a shortage could occur. Improvements in the general capability of hostile submarines could