Jack Lifton on the Critical Minerals Crisis

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The Critical Minerals Crisis excerpt – "We are now at an inflection point for our society. If we can secure the supplies and the processing capacity for the minerals critical for the technologies we now take for granted in our daily lives, then our nations will flourish and grow. If not, then our standard of living will decline, and those who have the critical minerals and the industrial bases to refine and fabricate them surge ahead of us. Our politicians and policymakers are woefully ignorant of this reality. This is the greatest danger of all to our lifestyle and security." – Jack Lifton, Co-Founder & Co-Chairman, Critical Minerals Institute

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Jack Lifton asks where are the "experts?"

In American Common Law an "expert" is defined as someone who knows more than the ordinary person about the subject matter at hand. In my youth, after attending graduate school and while attending Law School, I was frequently retained and asked to appear in court as an "expert witness" for litigation around electrical, electronic, and chemical accidents, fires, and explosions. In the fifty years since then I have continued to observe, and, I hope, learn about the operation and management of the material world. This has led me to characterize myself as an "observer" rather than as an expert. Here are my most recent observations and some of my thoughts about them:

The production and volume of production of an individual chemical element in any form, compound, metal or alloy, is a

function of its value to society at any given time. The need will be determined by the importance of societal values of the moment. Up to and including 1945 that need was determined almost entirely by war. Since 1945 a new factor, civilian consumerism, has become the dominant driver for the production of many formerly little-known, and rare, and difficult to produce in volume, chemical elements. Although the chemical engineering necessary to produce these rare elements in useful forms and relatively large quantities was paid for as a necessity for future war needs by the U.S. Defense Department (formerly known as the War Department). That funding mechanism faded away along with the lunar exploration program in the 1970s when cold war replaced hot war as the policy of the then two hegemons, the USA and the Soviet Union.

It was, at first, and for a long time not necessary for the big mining, chemical, or metallurgical companies to produce large quantities of the minerals and metals required for the mass production of the consumer and military devices necessary for the modern economies of the rich nations, because those necessary quantities, until the second decade of the 21st century, were small.

Then, in the second decade of the twenty-first century, the political push for EVs and then alternate energy entered the picture through the currently fashionable “fight against climate change.” Unlike, “global winter,” the “covid crisis,” and now the AI “disaster”, all of which were previously, and in the case of “AI”, currently, existential the fight against climate change has manifested itself in a battle to see who can most rapidly (appear to) destroy the cheap energy century that brought so much growth to the West. In North America and Europe, this has materialized as a rush to build out a wind turbine and solar infrastructure to replace fossil fuels as the major source of

the energy required to produce electricity. On top of that it has been decreed by the ruling classes of the elected and the elect (the wealthy) that no one who is worthy shall drive any vehicle not powered by the electricity stored in a rechargeable battery that feeds an electric motor.

Thus the relatively small and manageable demand for rare technology metals has exploded into an intense drive to expand the production of these materials. This has driven a focused increase not only in exploration, but more importantly in the researching and developing of new technologies for extracting, refining, and fabricating end-user forms of the rare technology metals. Commercially, so far, there has been little success in developing new extraction and processing technologies. And, ominously, exploration has discovered few “new” discoveries of high enough grade and accessibility to be nominated as “deposits” to be developed into economical mines.

The policymakers, nonetheless, continue to ignore their own failings in understanding the economics of natural resource production and the self-defeating hypocrisy of the anti-mining lobby.

The academic and bureaucratic observers of the economy who advise the policymakers are not at all experts in those things in which they have no hands-on experience.