

OPENING STATEMENT

The Honorable Andy Harris (R-MD), Chairman

Subcommittee on Energy and Environment

Energy Critical Elements: Identifying Research Needs and Strategic Priorities

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The purpose of this hearing is to examine the importance of and issues surrounding Energy Critical Elements, particularly as they relate to the government's role in supporting research and development. Energy Critical Elements are elements, including rare earths, which are of increasing importance to energy-related technology areas from high-performance magnets to photovoltaic solar cells to next generation batteries and fuel cells. They are also important to high-tech applications such as computers and cell phones and key defense uses such as jet engines and weapons systems.

While energy critical elements encompass a broader set of elements beyond just rare earths, the growing demand for rare earths amidst a volatile market warrants particular attention and concern.

China currently produces 97% of the global supply of rare earths. This is a result of a deliberate and decades-long strategy to develop its geologic reserves, undercut market price and drive out competition. The strategy succeeded, and China has recently reduced export quotas and increased levies on exported rare earth oxides in an attempt to exploit its position and manipulate the market. As a result, the rare earth marketplace of the last two years has suffered from instability, wild price swings, and uncertain supplies.

There are indications, however, that price spikes resulting from China's behavior have triggered positive market developments. In light of higher prices, producers in the U.S. and ally nations have announced plans to develop rare earth reserves around the world and companies such as Toyota and General Electric are pursuing demand reductions through R&D on recycling, substitute materials and increased use efficiencies. This led one investor analyst to conclude that, "the principal customer for rare-earth metals is a global automotive industry using rare earth permanent magnets. That industry will engineer this stuff out."

While a responsive market will continue to drive toward solutions, there are reasonable and proper steps the federal government can and should pursue in this area. I believe Representative Hultgren's "*Energy Critical Elements Advancement Act*" sets forth the appropriate structure and direction to this end.

For example, a national resource assessment of potential geologic reserves would deliver key information to the market and benefit both producers and consumers of energy critical elements. With respect to R&D, focusing Federal efforts in basic materials science and chemistry related to energy critical elements will complement private sector efforts and enable accelerated innovations. By focusing limited taxpayer resources on basic science research, we can secure the greatest return on investment, while avoiding the common problem of picking technology winners and losers.