



Opening Statement of Chairman Frank Lucas

Full Committee Hearing

The Role of Federal Research in Establishing a Robust U.S. Supply Chain of Critical Minerals and Materials

November 30, 2023

Good morning. Today, the Science Committee will examine the role that Federal research agencies can play in developing a robust domestic supply chain of critical minerals and materials.

Critical minerals like lithium, graphite, and cobalt are essential to our country's energy independence, national security, and economic growth. With applications in healthcare, defense systems, smartphones, and advanced energy technologies, these resources are essential to our modern way of life and our clean energy future.

Despite substantial domestic reserves, an alarming majority of the critical minerals used in the U.S. are sourced abroad. In fact, the U.S. has a net import-reliance of over 50 percent for 31 of the 50 mineral commodities designated as critical by the U.S. Department of Interior and relies completely on imports to supply a dozen of these commodities.

This heavy dependence on foreign supply chains, including those of adversarial nations, puts the United States and its allies at risk. Today, China controls over 60 percent of worldwide production and 85 percent of the processing capacity of critical minerals. As a result, the U.S. has a 50 percent net import reliance on China for about 26 mineral commodities.

As more advanced technologies enter the marketplace, we can only expect the global demand for critical minerals to increase. It has never been more important to protect ourselves by developing sustainable supply chains for these crucial resources both domestically and with like-minded allies.

Ensuring a stable U.S. supply of critical minerals and materials starts with encouraging responsible production and use here at home. Federal research agencies like the U.S. Department of Energy (DOE) and the National Science Foundation (NSF) have a central role to play in reducing U.S. dependence on foreign sources of critical minerals by supporting domestic mineral development and innovation.

Just as DOE led the way to the shale gas revolution through innovation in advanced technologies, the Department stewards important research in critical minerals and materials research and development. DOE prioritizes the development of new mineral alternatives through innovation in material sciences, the creation of a circular supply chain through recycling, and the identification of new mineral resources through advanced extraction approaches.

These cross-cutting activities are carried out through various offices including the Office of Fossil Energy and Carbon Management, the Office of Science, and the Office of Energy Efficiency and Renewable Energy, just to name a few.

In 2013, the Department created the Critical Materials Institute at Ames National Laboratory to accelerate solutions to the supply chains of critical materials. This consortium of industry, academia, and the National Labs allows for all their individual expertise to come together and tackle the most difficult challenges facing the sector.

Recently, the Department has also started a “Mine of the Future” program looking into the major technology gaps in the federal government’s supply chain of these materials and how to address them. I look forward to hearing from our DOE witness on how that initiative is progressing.

Similarly, the National Science Foundation funds basic research and STEM education initiatives to advance critical minerals mining strategies and technologies to better utilize existing domestic resources.

However, the United States is facing a workforce gap that will hamper our goals of securing our domestic supply chains. It is imperative that we continue to support and nurture talent in every community across the country.

The ongoing activities at NSF are an important part of the whole-of-government approach to securing the domestic supply chain of critical minerals and materials.

The Committee has prioritized Federal critical minerals R&D in recent years by providing updated guidance for both DOE and NSF through the Energy Act of 2020 and the CHIPS and Science Act of 2022.

I look forward to working with my colleagues on both sides of the aisle as we continue to review the Administration’s implementation of these important laws.

A robust domestic supply chain of critical minerals is important not only for U.S. national security and economic growth, but also for global environmental stewardship and humanitarian efforts.

Through innovation in advanced critical minerals technologies, we can increase domestic production of critical minerals and materials while minimizing our need to outsource this work to other countries that do not share our core values and standards.

I’m looking forward to speaking with our panel of experts about how we in Congress can ensure that the United States regains its footing in this field.

I want to thank our witnesses for their testimony today, I look forward to a productive discussion.