America Must Build Its Critical Minerals Strategy Backward

written by Jack Lifton | September 5, 2026

“America will not secure its critical minerals supply chains simply by counting mineral deposits or announcing new plants. National security begins with the equipment our military and economy must be able to build, maintain, and replace, and then works backward through every component, material, process, and supplier required to produce it. A mine becomes strategically important only when its output can move through a complete, qualified, and economically sustainable supply chain to reach the end user as a usable product.” — Jack Lifton, Co-Chair, Critical Minerals Institute (CMI)

America’s critical minerals strategy should begin with a question: What equipment must the United States be able to manufacture, maintain, and replace to ensure its national security? Once that question is answered, we can work backward through the components, the engineered materials, the processing technologies, and, finally, the mineral resources required to produce them.

Starting with a mineral deposit and assuming that a secure industrial supply chain will follow is an expensive way to discover how much industrial capability we have lost. The purpose of a national critical materials policy must be to restore the ability to deliver the products that our economy and military require. Discovering a resource, financing a mine, or announcing a processing plant represents progress only to the extent that it advances that objective.

A mineral deposit has no national security value that can be realized without the industrial means to turn its contents into something usable. Consider rare earth permanent magnets. Between the ore in the ground and a magnet operating reliably in a military component lies a succession of specialized industrial operations. Those operations include mineral concentration, chemical separation, metal production, alloy preparation, magnet manufacturing, and the incorporation of magnets into components that meet the customer's requirements. Each operation has its own technology, equipment, workforce, economics, and specifications. Success at one stage does not confer competence at the next.

Nor is the word "magnet" a sufficient product specification. The customer requires particular performance, dimensions, temperature tolerance, durability, and consistency. The product must be qualified for its application. A factory's announced annual capacity tells us little about how much of the particular product the customer needs it can reliably deliver. This is why capability and capacity must be considered separately.

Capability is the ability to manufacture the required product consistently to specification. Capacity is the ability to manufacture enough of it, within the required time, and sustain that production. America needs both. A demonstration establishes neither commercial scale nor dependable supply. A large building does not establish either technical competence or customer acceptance.

The correct starting point is therefore the end user.

What systems must our armed forces be able to procure and sustain? Which components are essential to those systems? What materials do those components require? Who can produce those materials in the necessary forms and quantities? Where does the

chain pass through a supplier or jurisdiction that could deny us access? Only after answering those questions can we determine which additional mines, refineries, metallurgical operations, and manufacturing facilities deserve priority.

The indispensable missing operation may turn out to be a relatively small specialty materials business. Expanding a much larger upstream project will not compensate for its absence.

To be fair, parts of the federal government recognize this. The Pentagon's announced partnership with MP Materials Corp. (NYSE: MP) includes separation and magnet manufacturing, as well as long-term arrangements intended to support prices and purchases. DOE has also proposed funding that extends into processing and manufacturing. These initiatives demonstrate awareness that mining alone is insufficient.

But recognizing the stages of a supply chain is only the beginning. The stages must operate together. Their products must meet one another's specifications, their capacities must be compatible, and their construction and qualification schedules must allow the entire system to function.

The Government Accountability Office has documented serious gaps in the Defense Department's visibility into its suppliers and foreign dependencies. That is a fundamental obstacle to allocating capital intelligently. We cannot confidently claim to have secured a supply chain without adequately mapping it.

There is also the question of how these businesses survive after their facilities are built. A grant can help fund the construction of a plant. It cannot, by itself, create a durable customer base. A manufacturer needs confidence that qualified material will be available. A materials producer needs confidence that someone will buy its output. Rebuilding the chain requires resolving those commercial dependencies together.

Defense demand may justify maintaining an essential capability that would otherwise struggle to be commercially viable. If so, the cost of maintaining that capability should be identified explicitly as a cost of national security. Where commercial customers can provide the scale necessary to sustain production, their requirements must be included from the outset. For investors, this changes the questions that matter.

The size of the resource is only one consideration. Who will convert the output into a saleable material? Has the process been demonstrated with the intended feedstock? Which customer will qualify and purchase the product? What additional financing and facilities are required before that customer can receive it? A government award is evidence of government support. Investors must still determine whether the business can deliver its intended product and whether the economics support its continued operation.

The same discipline should apply to taxpayers' money. Every major award should explain which dependency it removes, what qualified production it enables, when that production will become available, and what continuing public support it requires. A designation of "critical" identifies a concern. It does not establish the investment priority of every deposit containing the designated element. That priority must follow from the needs of the manufacturing system we intend to sustain.

America should judge its critical materials spending by the equipment it enables us to build, maintain, and replace under conditions of disrupted supply. Start with that equipment. Work backward. Fund the missing capabilities. Measure the resulting production.

That is how a collection of mineral projects becomes a national industrial strategy.