

Who Will Buy the Magnets? The Economic Test of America's Rare Earth Revival

written by Jack Lifton | October 28, 2026

The United States is committing billions of dollars to rebuild a domestic rare earth permanent magnet industry. New mines, chemical separation plants, metal and alloy production facilities, and magnet factories are being announced as components of a national effort to reduce American dependence on China. Yet one question remains insufficiently answered: Who has committed to buying the magnets, in what quantities, at what prices, and for how long? The answer will determine whether America is building a sustainable manufacturing industry or merely financing industrial capacity without a commercially viable market.

The national security justification for rebuilding this supply chain is compelling. China dominates the processing and manufacturing operations that transform rare earth minerals into the permanent magnets used in electric motors, generators, industrial automation, aerospace equipment, and defense systems. The United States needs alternative sources of these essential components. But strategic necessity does not establish commercial viability, and building a factory does not guarantee customers will buy its output at profitable prices.

I have spent more than sixty years observing the development, operation, and occasional disappearance of manufacturing businesses. One principle has remained constant: Manufacturing capacity has economic value only when customers purchase its output at prices sufficient to sustain production and recover invested capital. I have therefore long argued that industrial

supply chains should be developed backward from the requirements of the original equipment manufacturer, the OEM. The customer determines the specifications, quantities, delivery schedules, and acceptable prices. Those requirements should determine suppliers' capacity and structure. Much of the American rare earth revival proceeds in the opposite direction. We begin with mineral deposits, announce processing facilities, and propose magnet factories before establishing the customer commitments necessary to support them. That is not how a competitive manufacturing industry should be built.

Consider the economics of a proposed magnet factory with an annual nameplate capacity of several thousand tons. Its promoters may point to expanding demand for electric vehicles, robotics, wind turbines, and defense equipment. These forecasts show that magnets have a substantial, potentially growing market. They do not show that any particular manufacturer will secure profitable orders. Rare earth permanent magnets are engineered industrial components whose magnetic properties, dimensions, temperature performance, corrosion resistance, and consistency must meet the requirements of specific applications. Customer qualification can be time consuming and expensive. A manufacturer that successfully produces an acceptable sample has not necessarily demonstrated the ability to supply commercial quantities at acceptable yields and costs.

The economics of a factory depend on actual production and sales, not nameplate capacity. A plant operating at 25% of capacity may have unit costs far above those projected for operation at 85%. Labor, equipment maintenance, utilities, financing, environmental compliance, and other fixed costs continue regardless of production volume. Manufacturing yields and scrap rates further affect profitability. Investors must therefore distinguish among installed manufacturing capacity, customer qualified production capacity, and economically

sustainable production. These are not interchangeable measures of industrial success.

The financial value of an announced customer relationship also depends on what the customer is actually obligated to do. I would distinguish three levels of commitment. The first is interest without obligation, which includes expressions of interest, letters of intent, memoranda of understanding, and preliminary development discussions. These may establish a potential market, but they do not necessarily require a customer to purchase anything. The second is conditional demand, represented by qualification programs, framework supply agreements, and projected purchasing schedules. These show stronger commercial engagement, but if the customer can reduce or cancel purchases without meaningful financial consequences, the manufacturer still bears most of the market risk. The third is committed revenue, established through binding purchase orders, enforceable minimum volume agreements, take-or-pay contracts, or paid capacity reservations. When properly structured, these can provide the revenue foundation needed to finance and operate a factory.

The distinction is straightforward. An expression of interest is not an order. An agreement to qualify a product is not an obligation to purchase it. A projected sales value is not contracted revenue. Even a binding agreement must be examined for its cancellation provisions, performance conditions, duration, pricing, and the customer's financial strength. An announced multiyear contract with a potentially large sales value may provide surprisingly little financial security if the customer can reduce its purchases without substantial consequences. Investors should therefore ask how much revenue a customer must provide, rather than how much revenue a company hopes to earn from that customer.

This brings us to the domestic price premium. An American OEM may reasonably prefer domestically manufactured rare earth permanent magnets to reduce exposure to Chinese export controls, geopolitical disruptions, transportation delays, and production interruptions. But that preference has an economic value that must be quantified. The relevant comparison is not simply between the quoted price of an American magnet and that of a Chinese magnet. It is between the total cost and risk of the two supply arrangements.

An imported magnet may have a lower purchase price, but dependence on its supplier may expose the OEM to production shutdowns, emergency procurement costs, additional inventory requirements, and the expense of qualifying alternative sources. These risks have financial consequences, even if they do not appear on the supplier's invoice. An American magnet manufacturer may therefore justify a price premium. But that premium cannot be arbitrary, nor can it be established simply by calculating how much the manufacturer needs to recover its costs.

I would distinguish three economic justifications for a domestic premium. The first is the value of supply security, including expected interruption costs, inventory protection, supplier qualification, and the operational advantages of a dependable domestic source. The customer must decide how much these benefits are worth. The second is the temporary cost of establishing domestic manufacturing. A new factory may initially have higher unit costs because of low utilization, manufacturing losses, workforce training, and qualification expenses. Customers and governments may reasonably share some of these costs if they want domestic capacity established, but such support should be linked to measurable improvements in productivity and manufacturing efficiency. The third is the cost of maintaining strategic capacity that ordinary commercial

demand cannot support. If the government determines that additional magnet manufacturing capacity is essential for national security, it should pay explicitly for that capacity through procurement commitments, capacity reservation agreements, or other transparent mechanisms.

Consider a hypothetical example. Suppose an OEM can purchase qualified imported magnets for \$50 per kilogram, while a new American manufacturer initially requires \$65 per kilogram to operate economically. The American magnet carries a \$15 premium, or 30% above the imported purchase price. That difference does not establish that the American magnet is worth \$65 to the customer. If the OEM determines that the measurable benefits of domestic supply are worth \$5 per kilogram, then only \$5 of the premium is commercially justified on that basis. The producer must eliminate the remaining \$10 through improved manufacturing productivity, absorb it, have the customer pay it for additional strategic or transitional benefits, or finance it through an explicit government support arrangement. If none of these is possible, the factory may not be economically sustainable.

The figures are illustrative, but the principle is fundamental. A manufacturer cannot determine a product's commercial value merely by calculating its production cost. The customer determines what it is willing to pay in relation to available alternatives and the benefits received. A credible domestic pricing arrangement might therefore provide an initial premium that declines as manufacturing efficiency improves, while separately compensating the supplier for maintaining strategically valuable production capacity. This would let the manufacturer build competitive production without removing the incentive to cut costs.

Another consideration is frequently overlooked. A magnet manufactured in the United States from Chinese rare earth metals

or alloys may reduce dependence on imported finished magnets while leaving significant upstream vulnerabilities unresolved. The OEM should know precisely which supply risks its domestic premium is intended to reduce. The objective should not be to create an American industry permanently dependent on customers paying excessive prices. The goal should be to build a manufacturing system whose productivity and reliability eventually make it commercially competitive, while recognizing that certain national security capabilities may require continued public support.

Establishing domestic magnet manufacturing requires substantial capital. The company must purchase specialized equipment, train personnel, develop processes, qualify products, and finance working capital. The manufacturer must remain solvent throughout. If an OEM wants an American source available when needed, it must recognize that maintaining that option costs money. Long term minimum volume contracts, take-or-pay provisions, capacity reservation payments, and well-structured pricing agreements can distribute financial risk between the customer and the manufacturer.

An OEM cannot reasonably expect investors to finance a domestic manufacturing capability indefinitely while reserving the unrestricted right to purchase from whichever foreign supplier offers the lowest price. That would be like asking investors to provide an industrial insurance policy whose beneficiary is unwilling to pay. The government faces a related question. Where domestic production is essential for national security but ordinary commercial demand cannot support it, public financing may be justified. But that support should be identified for what it is: purchasing or maintaining strategic industrial capability. Such an expenditure is not inherently wrong. The problem is confusing a government-supported strategic capability with an independently profitable manufacturing business.

Governments and financial markets cannot suspend economic reality.

China's advantage in rare earth permanent magnets is not limited to access to mineral resources. Over decades, China has built an industrial ecosystem spanning chemical separation, metal production, alloy manufacturing, magnet fabrication, specialized equipment, trained personnel, and established customer relationships. American companies must compete with that accumulated manufacturing experience. The magnet manufacturer requires qualified alloys. The alloy producer requires metals of consistent purity and composition. The metal producer requires properly separated rare earth chemical products. Each stage must meet the next stage's specifications.

These are specialized industrial operations. I have never believed that ownership of every stage, from mine to magnet, automatically creates the most efficient business. Vertical integration may offer advantages in particular circumstances, but it also increases capital requirements and exposes management to several different manufacturing disciplines. A company competent in chemical separation is not necessarily competent in magnet manufacturing. Nor must a successful magnet manufacturer own a mine. The objective should be to create an economically sustainable industrial supply chain, whether one company or several specialized suppliers own its components. What matters is reliably delivering qualified materials at commercially acceptable costs.

Customer concentration creates an additional risk. Consider a hypothetical American magnet factory with an annual capacity of 2,000 tons, most of whose projected output is intended for one major automotive customer. Suppose that customer reduces its electric vehicle production forecasts, changes its motor design, or selects another supplier. The factory's technology may remain

excellent, but its economics could deteriorate rapidly. Replacement customers may require different specifications and lengthy qualification programs. During that period, the manufacturer must continue financing its operations. Even an enforceable contract may lead to arbitration or a financial settlement rather than continuing orders. Compensation for a canceled agreement does not necessarily replace the operating revenue needed to sustain a factory.

Investors must therefore examine customer concentration as carefully as the risk of raw material supply. A company dependent on one major customer may have a substantial order book without possessing a diversified or resilient business. This is especially important in an industry whose products must be qualified for particular customers and applications and cannot necessarily be redirected immediately to another buyer.

I am not a licensed financial advisor. As an industrial analyst, I identify the issues investors should examine before committing capital. For American rare earth permanent magnet projects, I would begin by identifying the actual OEM customers and determining precisely what purchasing obligations they have accepted. I would want to know whether the magnets are commercially qualified, whether the manufacturer has demonstrated repeatable production to the required specifications, and what factory utilization level is needed for profitability. I would examine manufacturing yields, scrap rates, fixed costs, financing requirements, and the finished product's competitiveness against equivalent qualified imports.

I would also want to know what portion of any domestic price premium reflects measurable supply security benefits, what portion covers temporary manufacturing inefficiencies, and what portion depends on government support. Who has agreed to pay these costs, for how long, and under what conditions? Where will

the rare earth metals and alloys originate, and how much of the proposed American supply chain remains dependent on Chinese processing? How much additional capital will it take to commission, qualify, inventory, and cover operating losses before the company achieves positive cash flow? How vulnerable is the business to the loss of its largest customer? Do its engineers and managers have demonstrated commercial manufacturing experience, or is their expertise primarily in mining, finance, and project development? Finally, can the company survive if qualification takes longer than expected, sales volumes disappoint, costs remain high, or government assistance is reduced?

These questions are not meant to discourage investment in American manufacturing. They distinguish credible industrial businesses from projects whose valuations depend primarily on future expectations. A technically excellent factory may still be a poor investment if its customers, costs, and financing cannot support profitable operation.

The United States needs to reduce its dependence on China for rare earth permanent magnets. But reconstructing domestic manufacturing requires more than capital expenditure, government encouragement, and announcements of new production capacity. It requires coordination among OEMs, specialized suppliers, manufacturers, investors, and government agencies, each accepting a realistic share of the costs and risks. Industrial customers must define their requirements and make credible purchasing commitments. Manufacturers must demonstrate that they can consistently and economically produce qualified products. Investors must evaluate these businesses on their commercial merits. Government must decide which additional capabilities national security requires and how it will finance their maintenance.

Measure the success of the American magnet revival not by announced capacity, but by qualified production sold to paying customers at sustainable prices. For investors, the decisive question is whether a manufacturer has a credible, customer supported path to sustained profitability. If a manufacturer cannot demonstrate this, a strategic need does not justify assuming commercial success.

I would conclude with the principle that has guided my analysis of the critical materials industry throughout my career: **Follow where value is added.** In rare earth permanent magnet manufacturing, value is ultimately realized when a qualified customer purchases a useful industrial component at a price that supports its production. America's permanent magnet industry will be rebuilt by companies that can meet that test, not merely by companies that can finance factories.