Why Can't We be Friends? Friendshoring the REE Supply Chain

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'Friendshoring' is a more frequently employed practice in trade policy to ensure reliable supply of key materials. Recent U.S. investments suggest a pivot toward more secure rare earth element (REE) supply chains, creating the opportunity for longtime U.S. trade partners like Australia to become a source of REE imports. This Executive Briefing on Trade will examine the friendshoring approach as it applies to the supply chain for rare earth elements. ¹

"Friendshoring": Conceptually speaking, friendshoring (sometimes referred to as allyshoring) can be defined as "manufacturing and sourcing components and raw materials within a group of countries with shared values." Identifying cohesive shared values is open to interpretation. Some suggest that friendshoring represents a reshoring or investment in manufacturing and trade among liberal democracies, while others suggest alignment of countries with military alliances (these two groups are not necessarily mutually exclusive). Arguably, the United States has engaged in the act of friendshoring for decades through its bilateral and multilateral trade agreements; nearly all U.S. FTAs are shared with either democracies, military allies, or countries that are both.

Recent supply chain disruptions such as the COVID-19 pandemic and Russia-Ukraine war underscored the urgency to address existing and impending supply chain vulnerabilities, particularly for critical materials.³ In an April 2022 speech to the Atlantic Council, U.S. Treasury Secretary Janet Yellen introduced friendshoring as an opportunity to pursue "free but secure" trade of critical materials by favoring trusted and allied countries to maintain broad market access and lower risk to supply. In June 2022, the State Department announced the establishment of the Minerals Security Partnership (MSP), effectively applying the friendshoring principle to critical material supply chains.⁴

Market Supply Shifts and REE Friendshoring Initiatives: REEs are a subset of critical minerals that have frequently been touted as candidates for friendshoring given their extreme concentration in a small number of producing countries and important role in a variety of manufacturing supply chains.⁵ Recently, China has dominated REE supply, reaching 97 percent of global production in 2009 and, nearly a decade later (2018), continuing to account for 85 percent of the REE processing supply chain.⁶

In recent years, customers, particularly those in the United States, have increasingly taken actions to diversify their sourcing. In 2021, the United States rose to account for 15 percent of REE production while China's share fell to less than two-thirds (60 percent). U.S. efforts are underway to further shift vulnerable REE supply chains toward secure sources. The U.S. Department of Defense (DoD) awarded Australia-based Lynas Rare Earths a \$120 million contract to process heavy rare earth metals in June 2022,

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¹ Rare earth oxides (REO) are "refined" rare earth elements (REEs = scandium, yttrium and the lanthanides). As the terms are often used interchangeably, REE refers to REO and REEs in this document unless noted otherwise.

² The Guardian, "Friendshoring." (2022).

³ Critical materials and minerals have significant consequences for the U.S. national or economic security if supplies are disrupted. <u>Consolidated Appropriations Act, 2021</u>. H.R. 133, 116th Cong. (2021). Page 1381.

⁴ MSP partners are Australia, Canada, Japan, South Korea, the UK, and the EC. Member states collectively hold less than 6 percent of known REE reserves.

⁵ For example, neodymium is a critical element in NIB magnets, often used in electronics, lasers, and telecommunications systems. For more information on the REE supply chain, see "Rare Earths and the U.S. Electronics Sector".

⁶ China has 37 percent of REE global reserves.

⁷ Burma and Australia accounted for 9.3 and 7.9 percent of global REE production, respectively.

which came in quick succession to a \$30 million grant for a light rare earth processing facility—both facilities will be located in Hondo, Texas.⁸ Lynas-USA plans to source its REEs from Australia, an MSP partner relatively rich in REE deposits, including types of deposits that are not present domestically (table 1). The MSP member list does not include Brazil, India, and Vietnam, which collectively hold more than 40 percent of global REE reserves.

Table 1: Trade Partners with Notable REE Reserve	Table 1:	Trade Partners	with Notable	REE Reserve
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Country	REE Reserves (Million Metric Tons)	Estimated Share of World Total (percent)	Share of 2021 Mine Production (percent)	Existing U.S. Trade Partnerships & Agreements
Australia	4	3.3	7.9	FTA (2004), MSP (2022)
Brazil	21	17.5	0.2	ATEC (2011)
Canada	0.8	0.7		USCMA (2020, formerly NAFTA), MoU on Critical Energy Minerals (2019), MSP (2022)
Greenland	1.5	1.3		none
India	6.9	5.8	1	IPEF (2022)
Vietnam	22	18	0.1	TIFA (2007), IPEF (2022)

Sources: USGS, "Mineral Commodities Summary" 2022; White House, "Statement on Indo-Pacific Economic Framework" 2022; USTR, "Australia," "Brazil," "Vietnam"; ITA, "India-Country Commercial Guide" 2022.

Friendshoring: The New "You Can't Sit with Us"? Despite cited benefits, critics of friendshoring claim this posturing could exacerbate economic disparity and heighten areas of geopolitical risk—the very issues this initiative aims to address. Some argue that less developed countries stand to lose the most from the friendshoring approach, which could accelerate a bipolar global trade structure and hinder supply diversification in the long run. Analysts note that the economic interdependence stemming from significant bilateral trade with less "friendly" countries may act as a form of risk mitigation and leverage that can prevent geopolitical escalations. Notably, the ambiguity of what constitutes a "friend" creates uncertainty over policy scope.

Outlook: Global demand for REEs is projected to double from 2017 to 2025 due to their integral role in renewable energy technologies. Supply chain shifts to meet demand of this scale and scope take a significant amount of time and capital to complete. After China halted REE exports to Japan briefly in 2010, Japan invested in a research center to develop production in Vietnam and supported the development of rare earths mining and processing in Australia. As of late 2017, Japan was only able to source 30 percent of its REE from Asian countries other than China. However, the U.S. has recently entered an agreement with Japan for certain critical minerals. Notably, Japan has invested in a heavy REE mine in Australia which will begin production in a few years' time. As such, the geopolitical and economic outcomes of friendshoring initiatives announced this year may take years to unfold.

Sources: DOE, "Rare Earth Elements." Statista, "Rare Earth Oxide Demand 2017-2025." The Guardian, "Friendshoring." SWP, "The Rise of Friendshoring." Atlantic Council, "Transcript: Special Address by US Treasury Secretary." State Department, "Minerals Security Partnership." Center for Strategic and International Studies, "Rare Earths: Next Element in the Trade War?" Statista, "Demand for Rare Earth Oxides." USGS, "Mineral Commodity Summaries 2022." C&EN, "Rare Earths Processer Buys Mining Rights in Greenland." Atlantic Council, "Our Guide to Friendshoring." Scientific American, "Japan and Vietnam Join Forces to Exploit Rare Earth Elements." IEEE Spectrum, "U.S. and Japan Seeking to Break China's Grip on Rare Earths Production." Northern Ontario Business, "Canada Must Have 'Control' of its Critical Minerals Supply." CSIS, "Onshoring and Friend-Shoring in U.S. EV."

⁸ For more on recent REE production initiatives, see "REE Supply Chains: U.S. Searches for Supplies Outside China."
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