



September 28, 2023

Senator Joe Manchin III  
Chairman  
Committee on Energy and Natural Resources  
United States Senate  
Washington, DC 20510

Senator John Barrasso  
Ranking Member  
Committee on Energy and Natural Resources  
United States Senate  
Washington, DC 20510

Dear Chairman Manchin, Ranking Member Barrasso, and Members of the Committee,

As you convene today's hearing "to examine opportunities to counter the People's Republic of China's (PRC) control of critical mineral supply chains through increased mining and processing in the United States as well as international engagement and trade," the American Critical Minerals Association (ACMA) applauds your commitment to seeking solutions that will ensure the United States is moving strategically and expeditiously towards countering Chinese control of the global critical mineral supply chain.

ACMA is an industry association that welcomes members from across the critical minerals supply chain, including raw material producers, processors, recyclers, suppliers, manufacturers, and end users, as well as academic institutions and other stakeholders. ACMA's mission is to support the advancement of the domestic critical mineral processing and recycling sectors in a sustainable and responsible manner and for the benefit of our nation's economy and security. Therefore, ACMA encourages Congress to advance policies that will support the growth of an independent and secure critical minerals supply chain – whether streamlining responsible permitting of the upstream extraction of minerals, funding and advancing innovative separation and recycling technologies, or establishing multilateral agreements with allies that share our interests.

In recent years, the rapid transition of the United States energy sector and drive toward electrifying the transportation sector has laid bare the reality that our nation is heavily reliant on foreign actors for certain minerals essential to the supply chains of U.S. manufacturers. In its inaugural review of the global critical minerals supply chain, the International Energy Agency noted that, as we experience increasing demand for critical minerals in the energy and transportation sectors, "a combination of volatile price movements, supply chain bottlenecks and geopolitical concerns has created a potent mix of risks for secure and rapid energy transitions."<sup>1</sup>

It is also increasingly apparent that the national security and economic risks associated with our reliance on foreign sources of minerals transcend any single economic sector, such as energy or transportation. In fact, those risks can also impede the operations and growth of our national defense systems, as well as aerospace and additional manufacturing interests such as the production of semiconductors, electronics, specialty steel, and medical devices.

One of the most acute monopolies over any individual mineral is that of China over lithium. It is no secret that China's dominance over the refining and processing of lithium is the direct result of a decades-long and deliberate industrial plan put in place by the PRC. While China holds less than 7% of the world's known

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<sup>1</sup> International Energy Agency. Critical Minerals Market Review 2023. Pg.4. Available at [www.iea.org](http://www.iea.org). Accessed September 20, 2023.

supply of lithium, it produces nearly 60% of the world's refined lithium.<sup>2</sup> An often cited but highly illustrative statistic demonstrates China's influence – particularly when you consider that, from 2017 to 2022, demand for lithium tripled globally.<sup>3</sup> With the growing demand for electric vehicles, solar panels, energy storage, and other clean energy technologies, this imbalance will be further exacerbated without aggressive and strategic U.S. leadership.

Another example highlighting China's monopoly over critical minerals involves gallium and germanium – materials needed in the production of computer chips and other applications, and typically produced through bauxite and zinc smelting. Germanium is also found in coal fly ash. The Critical Raw Materials Alliance (CRMA) notes that the majority of gallium production (approximately 80%) is located in China.<sup>4</sup> Similarly, 60% of the world's supply of germanium is produced in China, with 60% from zinc ores and 40% from coal fly ash.<sup>5</sup> On July 3, 2023, China announced it would impose export restrictions on these two minerals, citing national security interests.<sup>6</sup> In August, Chinese exports of these materials reached zero.<sup>7</sup>

While we may not yet have experienced the full effect of these recent export restrictions, it is abundantly clear that diversification of supply is more important than ever. In addition to identifying opportunities to build out production of these “niche” minerals, the United States should support the efforts of allies such as Germany and Japan to grow their capacity to manufacture and export gallium and germanium. The production of and access to these and other “niche” minerals must be part of a comprehensive and strategic plan for breaking our reliance on the PRC's supply over critical minerals.<sup>8</sup>

Although efforts to produce rare earth elements (REEs) in the United States are underway, we currently have no operational mines supplying these minerals. Fortunately, efforts by this Committee, the Department of Energy, and universities such as the West Virginia University and the University of North Dakota are resulting in promising and scalable opportunities for the domestic production of REEs.<sup>9</sup>

Domestic mining operations, multilateral agreements, and innovative technologies such as advanced separation techniques capable of extracting rare earth elements from coal and coal byproduct, are vital solutions to diversifying the upstream supply of critical mineral resources. These efforts are noticeably expanding – especially in the United States, Australia, Canada, and other allied nations.

However, it is imperative that we continue to examine opportunities to diversify the entire supply chain given how much of China's position lies in its monopoly over processing and recycling. Diversification in critical mineral exploration and extraction will only pay dividends in growing a more diverse and democratic global supply chain if refining, processing, and recycling capacity also grow. The ability to reclaim and recycle critical minerals embedded in products at end-of-life (EOL) that are already sitting within our borders presents an important opportunity.

As highlighted in testimony before this Committee in 2022, Abigail Wulf of SAFE's Center for Critical Minerals Strategy, stated that, “Investing in critical minerals processing also helps to promote improvements in critical minerals recycling. Mineral processing and mineral recycling are two sides of the

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<sup>2</sup> USGS. Lithium Fact Sheet 2023. U.S. Department of Interior. <https://pubs.usgs.gov/periodicals/mcs2023/mcs2023-lithium.pdf>. Accessed September 20, 2023.

<sup>3</sup> IEA at pg. 5.

<sup>4</sup> The Critical Raw Materials Alliance. [www.crmalliance.eu/gallium](http://www.crmalliance.eu/gallium). Accessed September 24, 2023.

<sup>5</sup> The Critical Raw Materials Alliance. [www.crmalliance.eu/germanium](http://www.crmalliance.eu/germanium). Accessed September 24, 2023.

<sup>6</sup> Reuters, “Companies respond to China's curbs on gallium and germanium exports,” July 7, 2023. [www.reuters.com](http://www.reuters.com). Accessed September 24, 2023.

<sup>7</sup> Reuters, “China exported no germanium, gallium in August after export curbs,” September 20, 2023. [www.reuters.com](http://www.reuters.com). Accessed September 24, 2023.

<sup>8</sup> IEA at pg. 8.

<sup>9</sup> U.S. Department of Energy, “Biden-Harris Administration Invests \$16 Million to Build America's First-of-a-Kind Critical Minerals Production Facility.” [www.doe.gov](http://www.doe.gov). Accessed September 24, 2023.

same coin.”<sup>10</sup> Since numerous minerals can be reclaimed and reused with little to no degradation in quality and performance,<sup>11</sup> growing recycling capacity alongside expanded mining operations and processing capacity is simply common sense.<sup>12</sup>

ACMA applauds you and your colleagues for your leadership and urges rapid advancement of policies that:

- Streamline permitting for domestic mining and processing of critical minerals in an environmentally responsible and sustainable manner;
- Advance additional funding to incentivize the development, deployment, and scaling of processing and refining capacity in the United States;
- Encourage greater collaboration between United States and multinational minerals interests seeking to diversify the global minerals supply chain and reduce reliance on Chinese exports;
- Ensure that the federal government is finalizing grants and Title XVII opportunities designed for the advancement of critical minerals interests in a timely manner;
- Direct comprehensive data collection and analysis of technological barriers to better understand the potential for critical mineral resources to be reclaimed and recycled from end-of-life products;
- Further incentivize domestic recycling initiatives for the reclamation and reuse of critical minerals from end-of-life products across the economy;
- Advance workforce development proposals such as the Mining Schools Act of 2023 to ensure our nation’s next generation of workers is prepared to meet the future needs of our manufacturing sector;
- Implement policy and regulations that reflect the reality between our existing supply chains and the need to rapidly diversify;
- Support continued use of the Defense Production Act to grow domestic processing and recycling capacity; and
- Protect and ensure favorable implementation of the advanced manufacturing production tax credit and other incentives to support our nation’s manufacturing capabilities.

Whether for batteries, defense applications, clean transportation, renewable energy, medical devices, semiconductor production, or other manufacturing needs, our nation and our allies need a critical minerals supply chain that is secure, sustainable, and free from the geopolitical agenda of foreign nations that do not share our values nor interests. The American Critical Minerals Association is grateful for this Committee’s examination of these vital issues and looks forward to providing continued support for bipartisan efforts to advance policy goals that will secure our clean energy future and regrow our nation’s manufacturing sector.

Sincerely,

Sarah Venuto  
President, The American Critical Minerals Association

cc: Members of the Committee on Energy and Natural Resources

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<sup>10</sup> SAFE Center for Critical Minerals Strategy. Testimony Submitted by Abigail on behalf of Secure America’s Future Energy. March 31, 2022. Available at [www.energy.senate.gov](http://www.energy.senate.gov). Accessed September 24, 2023.

<sup>11</sup> Gregory Barber. “Recycled Battery Materials Can Work as Well as New Ones.” [www.wired.com](http://www.wired.com). Accessed September 23, 2023.

<sup>12</sup> According to the IEA, “the projected surge in spent volumes suggests immense scopes for recycling. Policy makers can help realise the potential through three specific actions: (i) facilitating the efficient collection and transport of spent batteries; (ii) fostering product design and labelling that help streamline the recycling process; and (iii) harmonising regulations on international movement of batteries.” The Role of Critical Minerals in Clean Energy Transitions. [www.ies.org/reports](http://www.ies.org/reports). Accessed September 24, 2023.