



ZERO EMISSION
TRANSPORTATION
ASSOCIATION

May 20, 2024

Mr. Charles Yang
United States Department of Energy
Office of Manufacturing and Energy Supply Chains
1000 Independence Avenue, SW
Washington D.C. 20585

RE: Notice of Request for Information (RFI) on Critical Materials Market Dynamics
Submitted electronically to MESCanalysis@hq.doe.gov.

The Zero Emission Transportation Association (ZETA) is an industry-backed coalition of member companies advocating for 100% electric vehicle (EV) sales. ZETA is committed to supporting policies that drive EV adoption, create hundreds of thousands of jobs, dramatically improve public health, and significantly reduce emissions. Our coalition spans the entire EV supply chain, encompassing critical minerals developers, vehicle and charging manufacturers, charging network operators, electricity providers, and battery manufacturers and recyclers, among others.

We thank the Department of Energy (DOE) for the opportunity to comment on its Request for Information on critical materials market dynamics.¹ As discussed in these comments, ZETA is supportive of DOE's goal to reduce price volatility and stabilize critical materials markets. ZETA has also encouraged its members to submit comments in their individual capacities and we urge DOE to give those comments full consideration as well. As ZETA's members continue to invest their resources to build a sustainable supply of critical materials, continued support from and collaboration with the federal government is crucial to securing the supply chains needed to support a clean and stable energy transition.

Background

As the world transitions towards a clean energy economy, the demand for critical materials is surging. Critical materials play a pivotal role in the transition, primarily by facilitating the decarbonization of transportation systems, electric grids, and residential infrastructures. Even emissions control systems in internal combustion engine vehicles today use multiple critical materials.² Their importance is magnified in battery systems, which are central to electric vehicles and energy storage solutions. Beyond batteries, critical materials are foundational to charging stations, transmission lines, and multiple vehicle components. They are also indispensable in fields ranging from national defense systems to consumer electronics.

¹ 89 Fed. Reg. 28759 (April 19, 2024)

² 89 Fed. Reg. 27842 (April 18, 2024)

Accelerating electric vehicle adoption will further expand critical mineral and material development and related supply chain investment. The IEA reports that in 2023, the global EV market increased 35% from the previous year.³ S&P Global estimates that, due to the Inflation Reduction Act, U.S. projected demand for lithium will increase 15% by 2035 from estimates before the legislation (nickel, 14%; cobalt, 13%; and copper, 12%).⁴ By 2040, the International Energy Agency expects demand for the critical materials associated with clean energy technologies to increase between 400 and 600%.⁵ As the global pace of mining and processing these materials quickens, the U.S. stands in a prime position to spearhead a domestic industry. U.S. industry has the potential to establish a new global standard that ensures that the materials supporting our clean energy transition are sourced responsibly and sustainably.

ZETA Comments

Over the last 15 years, the U.S. has begun to recognize the necessity of building out a critical material supply chain to protect national security, energy security, decarbonization goals, and boost the economy. However, new U.S. critical materials projects have been inhibited by lengthy and uncertain permitting and litigation timelines, volatile market prices, uncertainty around the mechanics and stability of new federal programs, and an openness toward sourcing critical materials abroad.

While the U.S. and North America have promising reserves of several critical materials, new production has lagged behind that of peer countries over the last two decades—a period during which dramatic growth in downstream manufacturing of mineral-intensive products like batteries and renewable energy equipment has occurred overseas. As a result, much of the global battery material supply is now concentrated within nations like China, who moved with greater urgency and have since gained substantial leverage across upstream and downstream critical material markets.

Price Volatility

U.S. critical material production suffers from limited price transparency and predictability. Western private capital has been reluctant to commit to strategic investments across critical material development projects; by contrast, the subsidization of these investments by the Chinese government via anti-competitive policies such as preferential tax treatment and large, low-cost

³ IEA. April 2023. “Global EV Outlook 2024.” IEA. Paris. <https://www.iea.org/reports/global-ev-outlook-2024>

⁴ Yergin, Daniel; et. al. August 2023. “Inflation Reduction Act: Impact on North America metals and minerals market S&P Global Market Intelligence: FINAL REPORT.” S&P Global. <https://cdn.ihsmarkit.com/www/prot/pdf/0823/Impact-IRA-Metals-Minerals-Report-FINAL-August2023.pdf>

⁵ IEA. 2021. *The Role of Critical Minerals in Clean Energy Transitions*. IEA. <https://iea.blob.core.windows.net/assets/ffd2a83b-8c30-4e9d-980a52b6d9a86fdc/TheRoleofCriticalMineralsinCleanEnergyTransitions.pdf>

loans has afforded Chinese producers significant price advantages.⁶ China has recently shown a willingness to exercise its leverage on specific critical materials such as gallium, germanium, and graphite thus contributing to additional pricing uncertainty and volatility.⁷

Regulatory Uncertainty

The current domestic critical material permitting landscape creates a perverse incentive to remain reliant on foreign supply chains—particularly those strategically established by China and Russia—and leaves the U.S. vulnerable to geopolitical forces outside of our control. While the U.S. attracted almost 20% of the world’s total mining investment in previous decades, duplicative, inefficient, and costly permitting timeframes have created a lack of confidence in the U.S. as a viable mining jurisdiction in which to invest hundreds of millions of dollars upfront. The numerous complications, delays, and unpredictability built into the permitting system today create uncertainties and risks for investors. These factors place the U.S. at a competitive disadvantage to foreign governments and push mining activities to parts of the world with minimal requirements for environmental, ethical, and labor protections and mitigation activities.

At the international level, ZETA encourages the U.S. and its allies to continue monitoring market trends for critical materials. Similar dynamics have previously occurred in the commodity, automobile and industrial markets, and the U.S. is well-positioned to play an active role in shaping future developments. Domestically, ZETA also encourages the U.S. to actively collaborate with state, federal, and industry-based collaborators (e.g. materials producers, battery manufacturers, and automakers) in order to share information and inform policy development. Doing so can help improve the permitting and judicial review processes timelines needed to safely and responsibly increase domestic mineral production and processing capacity while helping to de-risk private capital.

Pricing Transparency

The nascency of the domestic critical materials markets leaves DOE well-placed to help improve price transparency. Gathering and sharing additional information about specific critical material markets with public and private actors will be particularly important as critical materials producers and processors work to stabilize upstream and downstream supply chains. Developing geographic indices that factor in import tariffs, royalties, freight, environmental, social, and government (ESG) metrics, and other relevant costs; collaborating with foreign allies to publish country-specific critical material export data; and encouraging aligned and consistent exchanges outside of China alongside partners like Australia, Chile, South Korea, Canada, the United

⁶ Sky News. May 2024. “Chinese companies receive far more state support - making it harder for Western businesses to compete, data suggests”

<https://news.sky.com/story/chinese-companies-receive-far-more-state-support-making-it-harder-for-western-businesses-to-compete-data-suggests-13127191>

⁷ Reuters. October 2023. “China ups critical minerals heat with graphite controls”

<https://www.reuters.com/markets/commodities/china-ups-critical-minerals-heat-with-graphite-controls-2023-10-24/>

Kingdom, and the European Union can help private investors gain the necessary information to develop U.S. critical materials reserves with confidence. Collaborating with allied nations would also serve to bolster supply to U.S. downstream manufacturers while domestic production and midstream processing scales up.

Conclusion

ZETA applauds the Biden-Harris administration for its historic work to strengthen domestic clean energy supply chains and decarbonize the transportation sector. Given the unique nature of each critical material, we highly encourage DOE to review the individual comments submitted by our members. ZETA and its member companies thank you for your attention to these comments and are available should you have any additional questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'AG', is positioned above the typed name of the sender.

Albert Gore
Executive Director
Zero Emission Transportation Association