

U.S. Senate Committee on Energy and Natural Resources
February 6, 2025 Hearing
Now Ore Never: The Importance of Domestic Mining for U.S. National Security
Question for the Record Submitted to Mr. Jeremy Harrell

Question from Representative Mike Ezell

Question: Key lifesaving industries like pharmaceuticals, drug formation, and farming would be impacted by such disruptions in supply of palladium. Have any of you looked at these industries to evaluate the nation's security threat to our health and basic nutritional needs if the flow of these critical minerals was disrupted?

Answer: While palladium has not been a primary focus of study for ClearPath, disruptions in the critical minerals supply chain present a significant risk to national security, including essential industries such as pharmaceuticals, drug formulation, and agriculture. Critical minerals serve as the foundation for modern manufacturing, and any supply chain instability could lead to shortages in life-saving medications, disrupt food production, and hinder medical and technological advancements.

Palladium, a platinum-group metal, is classified as a critical raw material and plays an essential role in catalytic converters for reducing emissions, as well as in the chemical and electronics industries. Additionally, its properties are crucial in pharmaceutical drug formation and agricultural processes. The global palladium supply is highly concentrated, with Russia historically controlling approximately [40% of global mine production and 30% of total exports](#) by value. Following Russia's invasion of Ukraine, concerns over supply disruptions have intensified, as Western markets remain heavily dependent on Russian palladium. While some alternative sources exist in South Africa, Zimbabwe, Canada, and the United States, the flexibility to accommodate shortages remains limited.

China, while not a dominant producer of palladium, remains a major refiner and importer, exerting significant influence over supply chains. China's strategic use of state-owned enterprises to manipulate global markets has been demonstrated in other critical minerals, such as rare earth elements, lithium, and cobalt. The risk of geopolitical leverage remains a pressing concern. Similar disruptions have already affected semiconductor production, defense supply chains, and advanced energy technologies. If applied to palladium, such actions could result in substantial shortages in the automotive industry, pharmaceutical manufacturing, and key agricultural applications, ultimately impacting public health and food security.

Given these risks, strengthening domestic mining, refining, and supply chain resilience is a necessary priority. Without proactive measures to secure critical materials, the United States and its allies will remain vulnerable to external supply shocks that threaten economic stability, technological leadership, and essential public services. Addressing these challenges requires a focus on three key areas: restoring predictability to the permitting process, streamlining judicial review, and de-risking private investment. Without these reforms, domestic projects will struggle to compete, and the U.S. will remain dependent on foreign-controlled supply chains, undermining national security and long-term economic resilience.

Question from Representative Debbie Dingell

Question: Mr. Harrell, do you agree that the direct loans from the Biden Administration for domestic critical mineral processing projects are a benefit to our domestic supply chains?

Answer: Debt-financing for large-scale domestic critical mineral processing projects can help de-risk private investment and expand U.S. refining capacity. However, the U.S. remains heavily reliant on foreign processing, with China controlling over 60% of global refining. To compete globally, mining and refining entities must have equal access to certain financial incentives that support domestic production.

The 45X advanced manufacturing tax credit has the potential to strengthen domestic mining and refining, fostering private sector investment while reducing reliance on foreign-controlled supply chains. Targeted improvements - such as stronger incentives for domestic mines supplying U.S.-sourced materials - would enhance its impact. Expanding public-private partnerships, like those at the Department of Energy, alongside a strengthened 45X credit can help de-risk investment in nationally significant projects, ensuring new mines and refineries integrate into resilient domestic supply chains and support long-term economic growth.

Beyond financial incentives, permitting delays remain one of the biggest barriers to domestic production. Mining projects face an average 7–10 year permitting timeline, with approvals often stalled by duplicative reviews and lengthy litigation. Even after permits are issued, legal challenges can drag projects into years of uncertainty, deterring private capital investment. Without permitting reform, domestic projects will struggle to compete, leaving the U.S. vulnerable to supply chain disruptions and geopolitical leverage.

To build a resilient supply chain, the U.S. must align financing tools with comprehensive permitting reform, including clear review timelines, streamlined judicial processes, and coordinated federal-state approval processes to provide certainty needed for domestic projects to move forward.

Question: Mr. Harrell, similarly, do you agree that federal support for battery recycling is vital for U.S. manufacturing and the jobs that will come with it?

Answer: Battery recycling plays an important role in supplementing domestic critical mineral supply and reducing reliance on foreign sources. However, while recycling can help alleviate supply chain vulnerabilities, it cannot meet the scale of surging demand driven by manufacturing, data centers, and AI infrastructure. Federal support for battery recycling can contribute to U.S. manufacturing and job creation, but it must be complemented by expanded domestic mining and processing to ensure a secure and resilient supply chain for critical materials.