Copper Development Association Inc.

WRITTEN QFR RESPONSES OF

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U.S. House Committee on Natural Resources

Subcommittee on Energy and Mineral Resources

Hearing: "Powering the 21st Century with American Copper"

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Questions from Rep. Crank for Mr. Adam Estelle, President & CEO, Copper Development Association

1. Mr. Estelle, the other side of the aisle seems to oppose every mine being developed in the U.S. When we talk about copper mines, they seem to think every copper mine leaks. Personally, I believe we should responsibly mine our own resources rather than depend on other countries, some of whom exploit child labor. Would you please talk about how modern mining technologies and protections make copper mining safe, not only for the environment, but the people living and working near them?

As we established during the hearing, America will have an insatiable appetite for copper for the foreseeable future. The demand is not going away, and the copper units need to come from somewhere. America must adopt an all-of-the-above copper sourcing strategy to meet surging demand which must include increased domestic mining and processing, increased domestic recycling, as well as continued trade with dependable partners.

As part of this strategy, the United States must mine and process its own abundant supply of copper resources within its borders with American jobs and through responsible practices under some of the highest environmental and labor standards in the world.

Copper mines have modernized significantly over the years and employ the latest technologies and protections to make sure every copper unit is produced safely and responsibly for both the workers and the communities in which they operate. As I mentioned in my testimony, this is evidenced by producers' active participation in robust 3rd party assurance frameworks like The Copper Mark which includes 33 criteria on responsible production practices designed to ensure that copper mining is safe for both the environment and the people living and working near mining sites.

2. My state is home to the Colorado School of Mines, one of 14 remaining mining schools in the U.S. Secretary Burgum has said: "We graduated 36,000 lawyers in America last year. We graduated 300 undergrads with mining and metallurgical degrees. We're off by 100:2." 300 new mining and metallurgical engineers each year is less than half of what our *existing* industry needs each year, much less what is needed to support expanding our domestic supply chains. I co-sponsored Congressman Owens' bill, H.R. 2457 – The Mining Schools Act, because we need to preserve and grow our existing mining programs. In addition to engineers, more than half of our existing mine workers are projected to retire by 2030. a. Mr. Estelle, in your testimony, you call this a "severe and worsening workforce crisis" and I agree. What actions is the copper industry taking to bolster workforce development?

We share your concern and appreciate your legislation. At Copper Development Association (CDA), one of our most sacred duties is to tell the copper story. For the most part, copper is out of sight and out of mind for the general public. The copper products that keep us safe and support our modern way of life are hidden behind the walls, buried underground, or inside products, machinery and devices. People don't think about copper every day and therefore it is easy to take copper for granted and even easier to overlook exciting and fulfilling career opportunities in the copper industry. We are beating the drum loudly to raise public awareness to just how critical and ubiquitous copper is, and how inextricably linked it is to both strategic sectors and everyday life.

At CDA, we're doing our part to get people excited about copper the metal by promoting its amazing properties and the broad spectrum of value that copper and its alloys bring to society. Getting people excited about copper is part of the equation to attract talent to our industry, and this is getting much harder with fierce competition for industrial talent across many sectors. We need to continue elevating the profile of copper and the copper industry, and spotlight all the exciting career opportunities our members are offering.

CDA's members across the mining, refining, fabrication and recycling sectors are also very active in bolstering workforce development. Some of our members have robust educational programs that start as early as grade school to help fill the pipeline. Our members also partner with local schools and universities. We need more of that, and we also need supportive policies like The Mining Schools Act to preserve and grow our existing workers.

We will continue telling the copper story, and we also need help. As indicated in my testimony, CDA is calling on Congress and the Administration to establish federal grant programs to support education and workforce development across domestic copper mining, refining, fabrication, and recycling. This includes funding for mining engineering programs, apprenticeships at domestic smelters and fabricators, and community workforce development initiatives in regions where copper operations anchor local economies.

Questions from Rep. Gosar for Mr. Adam Estelle, President & CEO, Copper Development Association

What do you think it will take to establish a robust domestic smelting capacity to reduce our reliance on China and Mexico? You mentioned in your testimony that we need an "all-of-the-above copper sourcing strategy."

1. How much do you expect this process to scale up and contribute to our domestic copper supply over the next 5 or 10 years?

Per my testimony, the keys to a robust domestic copper smelting industry include:

- Making copper immediately eligible for the 45X Advanced Manufacturing Production Tax Credit for Critical Mineral Production. Copper's designation as a USGS Critical Mineral does not automatically confer eligibility as the existing statute hardwires the 45X benefit to the prior critical minerals list rather than dynamically updating with the current list. Congress must fix this now. The 45X credit is the primary tool available to make the economics of new and expanded domestic processing (both primary and secondary) capacity viable. H.R. 8277 would accomplish this objective.
- Sustained financial support, permitting reform, and regulatory certainty for existing primary and secondary smelting and refining operations. Federal investment in the form of grants, loan guarantees, and offtake support is necessary.

The rate at which this new capacity can come online and contribute to domestic supply will depend on the timing and extent of regulatory modernization and key incentives like 45X, as well as the ability of domestic smelters to secure sufficient feedstock supply as copper smelters compete in a global market for copper processing.

For secondary smelters that process scrap into refined metal, following through with targeted export controls on certain high-quality copper scrap grades would accelerate new productive capacity and investments by safeguarding readily available domestic feedstock that is currently exported as indicated in my testimony.

It is also important to note that trace amounts of many other elements, including many U.S.-designated Critical Minerals, are present in copper concentrate, which primary copper smelters can recover if economically viable. These include materials such as selenium, tellurium, lead, platinum, nickel, cobalt, rhenium and others. Therefore, incentivizing increased domestic copper smelting and refining capacity becomes an even stronger strategic imperative when considering copper's role as a carrier metal that pulls through other critical and strategic minerals.

Investment in domestic mineral exploration production is needed, but domestic processing is key to avoiding a copper crisis. But investment does not start and end at production. It starts with education in geology and natural resources, to exploration and production, to processing and smelting, and finally, to the finished product for manufacturing.

2. Are permitting and duplicative environmental regulations barriers to incentivizing investments to copper projects?

S&P Global issued a report in 2024 on challenges and opportunities for U.S. copper, and it specifically highlighted the disparity in exploration budgets for the U.S. vs. other regions including Canada and Australia.

From 2009 to 2023, the average copper exploration budgets for the U.S. has been in line with that of Australia, even though the U.S. has as much copper reserves and resources as both Australia and Canada combined.

In terms of dollars per metric ton of copper endowment, Canada received 55% more than the U.S. in exploration budget during this period. Australia received more than double the budget received by the U.S.

We believe one of the main reasons for this is the persistent uncertainty that surrounds mine development in the U.S. The convoluted permitting process, open-ended timelines, and regulatory overreach in certain areas factor into this, and we also must consider the culture of post-permitting litigation that adds further delays to projects. While the challenges are most apparent upstream in mining, permitting and regulatory challenges also exist in downstream segments, further complicating the United States' ability to build out a resilient, reliable, and vertically integrated domestic copper supply chain.

Fixing some of these systemic issues through solutions like Chairman Westerman's SPEED Act would help incentivize more investment in exploration as well as education in geology, natural resources, and responsible production practices across all value chain segments.

Questions from Rep. Palmer for Mr. Adam Estelle, President & CEO, Copper Development Association

1. Mr. Estelle, in the last few years, China has dramatically increased their copper refining capabilities. They're able to ramp up production so quickly because the Chinese government has prioritized the industry. By comparison, our operators here in America are constantly mired in overly complex permitting processes while competing with China's artificially low prices. What sorts of permitting reforms could we as the legislature streamline to incentivize the sort of production we need without compromising on environmental standards?

This is consistent with our assessment. China made a long-term decision decades ago to build out copper processing capacity at scale, even when it didn't make economic sense, while the West made rational market-driven decisions not to. This strategy is bearing a lot of fruit for China right now, and America has fallen far behind.

Permitting reform is indeed necessary to incentivize increased responsible production domestically. Part of the calculus for standing up new copper smelting capacity is securing feedstock supply. Permitting reform at the mining level would help unlock this feedstock to keep domestic smelters full and profitable.

Chairman Westerman's bi-partisan SPEED Act is one specific solution that would bring welcome relief without compromising on our country's high environmental and labor standards.

Per my testimony, we also need sustained economic incentives to help domestic smelters compete against Chinese overcapacity. Making copper eligible for the 45X tax credit would be a tremendous stride in making increased primary and secondary copper refining capacity economically viable in this country.

2. Mr. Estelle, as you're aware, many copper companies demonstrate responsible production practices through the Copper Mark certification. These international standards, evaluated by independent assessors, are a badge of honor for many companies because they reflect a meaningful commitment to 33 environmental, social, and governance criteria. Could you talk a bit more about that process and why companies are actively pursuing the Copper Mark certification?

Indeed, The Copper Mark is the leading assurance framework to promote responsible production practices across the copper value chain in alignment with the U.N. Sustainable Development Goals. Today, there are over 100 sites that have received The Copper Mark certification with more in the pipeline. In brief, The Copper Mark has three main elements:

1. **The Risk Readiness Assessment Criteria Guide**: also known as The Copper Mark Criteria for Responsible Production, this is a set of 33 criteria that serve as a common standard of reference for environmental, social, and governance (ESG) practices in mineral supply chains. This is the main standard, the successful completion of which results in The Copper Mark. The 33 criteria cover a broad range of ESG areas including child labor, mine closure and reclamation, occupational health and safety, indigenous peoples' rights, climate action, water stewardship, community development, tailings management and more.
2. **The Joint Due Diligence Standard** which outlines the third-party assessment process in alignment with the OECD Minerals Guidance.

3. **The Chain of Custody Standard**: a voluntary add-on that defines the requirements for a system of control and transparency for copper-containing products that move through a supply chain.

Companies are actively pursuing The Copper Mark certification because it enables them to better understand and meet the increasing demands for independently verified responsible practices, and to contribute positively to sustainable development.