

Committee on Natural Resources
Subcommittee on Energy and Mineral Resources Oversight Hearing
1324 Longworth House Office Building

April 29, 2026

10:00 AM

“Powering the 21st Century with American Copper”

Questions from Rep. Webster for Dr. Daniel Yergin, Vice Chairman, S&P Global

1. Dr. Yergin, the residents in my district are rightly concerned about keeping the cost of living low. If we're heading toward sustained shortages and even high copper prices, what does that mean for everyday Americans' cost of living, especially when it comes to electricity bills, homebuilding, and consumer goods?

Copper is an essential element of electric infrastructure such as transformers, switchgears, distribution lines, underground transmission lines, and batteries. For example, copper can represent up to 30% of the cost of large power transformers. Increased copper prices will naturally lead to inflationary cost of electrical infrastructure, which may be passed through to the consumer. Air conditioning units and other household items are very copper intensive, and higher copper prices will likely impact their overall prices. Higher copper prices will show up in the costs of new buildings.

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Questions from Rep. Wittman for Dr. Daniel Yergin, Vice Chairman, S&P Global, Washington DC.

1. Copper is a critical component in protecting naval and Coast Guard vessels from corrosion. Does the U.S. have sufficient levels of copper production from domestic sources to supply our national security needs?

Our assessment, and the USGS assessment, is that the U.S. produces 1 million metric tons of mined copper and 790,000 metric tons of refined copper. US defense related copper demand is currently 141,000 metric tons and is estimated to reach 262,000 metric tons of refined copper by 2040. AI and data centers, which are increasingly becoming a national security issue, could require up to 1 million metric tons of copper by 2040.

US domestic production at current levels would be unlikely to be sufficient to meet these specific end uses. Allied supply could be required to support these national security needs, with available mining and smelting capacity to meet US national security demand. Processing also remains a chokepoint.

2. A 2023 article from the Modern war Institute at West Point stated that *“According to an Institute for Defense Analyses report for the Defense Logistics Agency, the Department of Defense used approximately 106,000 tons of copper in 2008, making it the second most used material by weight in US defense production.”* ([Source](#)) Assuming copper use in defense applications has remained steady, if not increased substantially like most technologies, does the U.S. have sufficient existing capacity to supply defense needs at current production, or are new mines needed to meet anticipated demand?

Please see response above. The US has sufficient reserves and resources in the ground to support anticipated demand but current production would need to increase to meet 2040 demand.

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Questions from Rep. Gosar for Dr. Daniel Yergin, Vice Chairman, S&P Global

As I mentioned, the U.S. has two operating smelters and one that is mothballed. China has 45. China’s drastically under market prices for copper make it hard to finance new smelters here in the U.S.

1. What do you think it will take to establish a robust domestic smelting capacity to reduce our reliance on China and Mexico?

Smelting economics are challenging in the current market environment: low treatment charges, high competition for copper concentrate (feedstock), and high power prices. Moreover, building new smelters would no doubt encounter significant permitting and regulatory challenges. Improved economics will require more mines to come online (to provide more copper concentrate supply), and potentially financial support on capital costs (infrastructure costs) to ensure economics remain positive for smelting.

Other alternatives to reduce reliance on China would be to focus on copper production via the Sx/Ew process (solvent extraction/electrowinning), which bypasses the smelting process and produces straight cathodes from the mines – these can be done in mines in Arizona (like Florence, Bagdad and other oxide deposits).

It’s not clear why Mexico is put in the same category as China. A final approach to reduce reliance on China would be to identify allied partners (Chile, Germany, Canada, Peru, Japan, South Korea) and leverage their smelting capacity as alternatives.

2. How many smelters did the U.S. have prior to 1970? Over 16, compared to 2 operating now.
3. What occurred after the 1970s to drastically decrease the domestic smelting capacity?

Closures were driven by a multitude of factors: difficult economics, changing priorities from owners, environmental restrictions and obstacles, and lower competitiveness of older smelters.

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Questions from Rep. Westerman for Dr. Daniel Yergin, Vice Chairman, S&P Global

1. Dr. Yergin, your report predicts a supply shortfall of ten million metric tons in 2040, fourteen years from now. The report also states that the average time it takes, globally, to open a new mine is 17 years, or – in the case of the U.S., 19.1 years. So even if a new mine started tomorrow that supply wouldn't come into production until about 2043. Do you think this global shortfall in supply is inevitable?

The 19.1 year estimate is an assessment using historical and current data, focused on mines that are either operating or have closed already. A forward looking estimate could be vastly different based on streamlining of permitting and/or faster time to market: for example, the Hermosa mine in Arizona is being built in less than 6 years from discovery (a zinc mine). We can also see examples in the copper market: Kamoakakula in the Democratic Republic of Congo took about 5 years from discovery to operation. This global shortfall is not inevitable but requires efforts to speed up unlocking supply and a regulatory and permitting system that is supportive. And investors, of course, would need to be confident that their multi-billion dollar investment is not derailed halfway through by shifting government policies.

2. Given your deep expertise in geopolitics, energy, and resources, how do you foresee price increases or supply constraints to influence geo politics as this situation evolves over the next 5, 10, 15 years?

I think that copper, along with other mineral supplies, could become a bigger source of friction and competition among nations, as well as taking on more urgency.