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## 'War for Talent' at Mines Could Drive Up Cost of Energy Transition

Companies wrestle with labor shortage as Washington tries to bolster domestic metals output

## Hardika Singh Follow and David Uberti Follow

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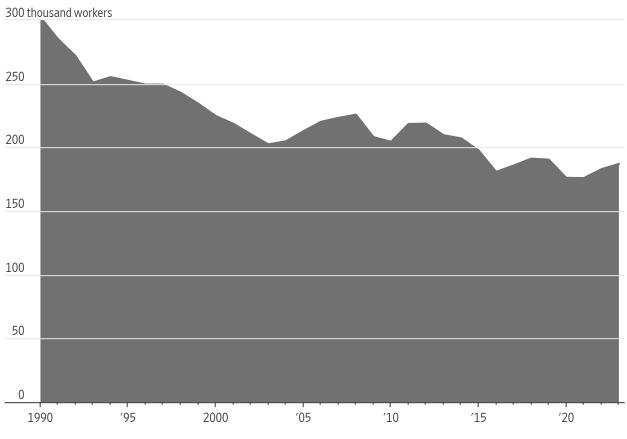
Wall Street is betting a labor shortage across the U.S. mining industry will drive up prices for the array of metals needed for the transition away from fossil fuels.

The crunch spans engineers who design job sites, miners who extract raw metals and the truck drivers who haul them away for processing. It is another headache for producers already struggling to supply the materials needed for electric vehicles, solar panels and wind farms.

"It is a war for talent," said Mel Sanderson, president of North America at American Rare Earths, which has projects in Wyoming, Arizona and Nevada.

Multinational companies and startups alike are competing for labor with more generous benefits and sustainability commitments to rehabilitate the industry's image for dirty and sometimes dangerous work. Adding to the hiring hurdles: Workers often need to relocate to remote job sites.

## U.S. mining employment, seasonally adjusted



Note: All jobs across coal, metal ore and nonmetallic mineral mining Source: U.S. Bureau of Labor Statistics

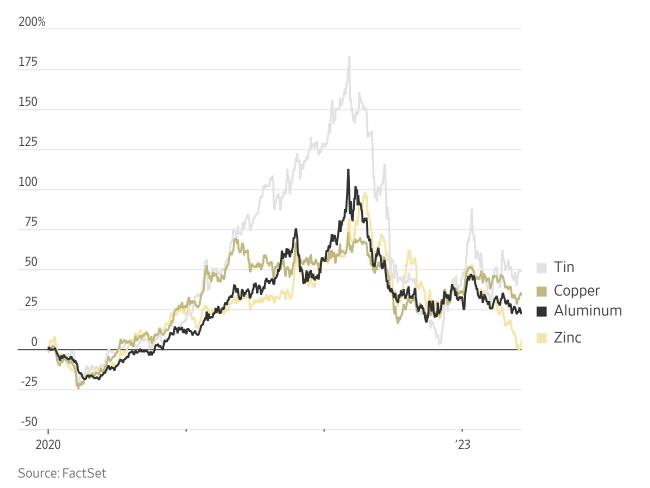
The push comes as the green-energy transition is expected to jack up demand for mined materials and the U.S. works to increase domestic production and reduce reliance on metalsrich China. Some investors say the challenge of meeting those goals will power higher prices for commodities such as copper, lithium, nickel, tin and zinc in coming years.

"Who wins here? The price of the metal," said Luke Oliver, head of climate investments at KraneShares, who is invested in metals through futures. "We don't think supply can keep up with demand."

Metal prices are down from last year's record highs, dragged lower by China's unexpectedly weak reopening after stringent Covid-19 lockdowns. The S&P 500 index's materials sector, which holds shares of mining companies, is one of the worst performers this year.

But many analysts expect a rebound. Citi expects labor shortages, permitting challenges and other issues will propel lithium prices higher by as much as 40% by year's end. It forecasts copper will jump 50% by 2025, noting that it is less vulnerable than some other metals to recent innovations for electric-vehicle batteries.





Many established mines are already contending with decades of underinvestment, and companies say that labor shortages could further threaten their ability to increase output.

"It is just a significant matter in the U.S.," **Freeport-McMoRan** chief executive Richard Adkerson said during a recent earnings call. Shares of the company, which is based in Phoenix, are down 1.1% this year.

The warnings come after a yearslong pullback in U.S. mining. The overall industry's seasonally adjusted head count shrank by nearly 39% since 1990 as power generators turned away from coal, according to the Bureau of Labor Statistics. Colleges and universities have struggled to rebuild the depleted talent pipeline.

"The problem is that talent isn't lying around waiting to be paid more—there just isn't enough of it," said Andrea Brickey, an associate professor of mining engineering and management at the South Dakota School of Mines & Technology.

Rylan Nemesh, a 22-year-old mining engineer, received half a dozen job offers before graduating from West Virginia University. He opted for a company that produces building

materials and offered him a \$7,500 signing bonus and company truck.



Rylan Nemesh, mining engineer. PHOTO: RYLAN NEMESH

"When people say 'mining,' it's not exactly the prettiest thing in the world," he said. "But it is insanely technologically advanced nowadays."

Lithium Americas, which is sitting on perhaps the country's largest lithium deposit, joined with a coal firm to help design and eventually staff its forthcoming Thacker Pass mine in northern Nevada.

"You don't need lithium people, per se," said Jonathan Evans, chief executive of Lithium Americas. "You need chemical-processing people and mining people."

The company has the advantage of a \$650 million investment from General Motors, providing more certainty to potential employees than many other projects. Its shares, listed in Canada, are up 10% this year.

"The quicker you move and contract people, the better," Evans said.

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