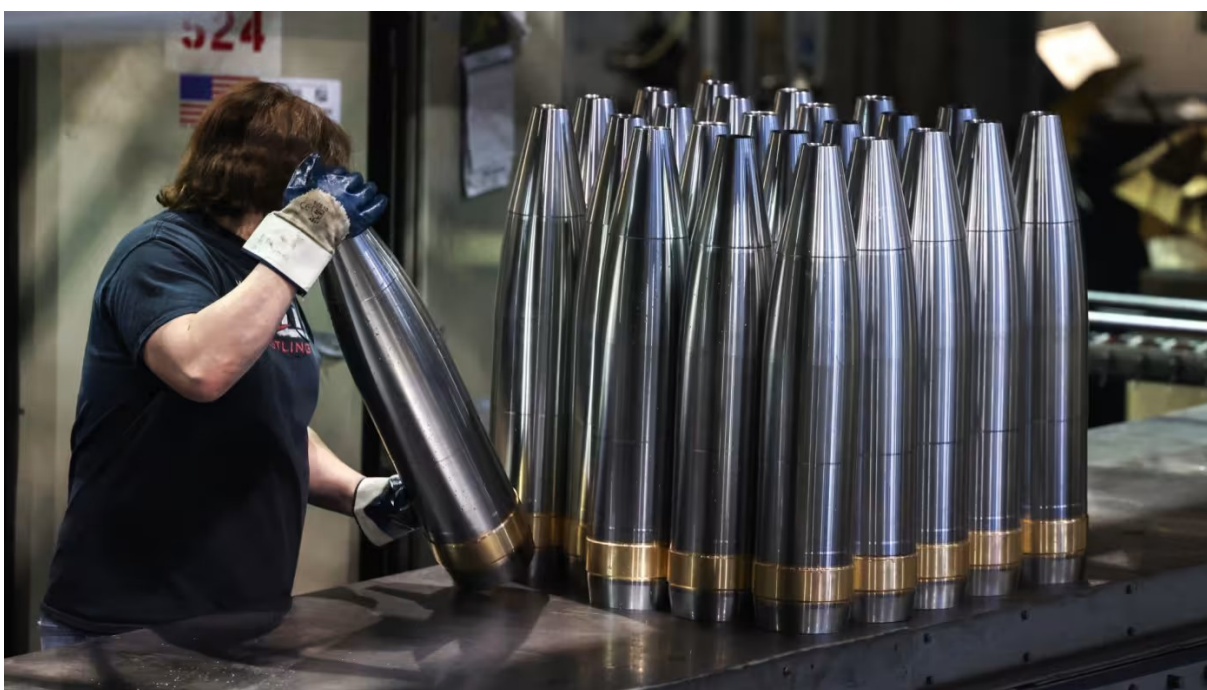


Mining

Modern warfare is reshaping metals demand, says mining veteran

Surge in military consumption comes as growth of renewable energy supercharges demand for copper



China's dominance of critical minerals and the global battle to secure essential raw materials pose a threat to America's military supremacy © Charly Triballeau/AFP/Getty Images

Leslie Hook, Camilla Hodgson and Sylvia Pfeifer in London

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Veteran mining entrepreneur Robert Friedland said modern warfare and growing demand for weaponry had “dramatically” altered the landscape for metals demand — and that the west was unprepared for the shift.

Rising defence spending and military conflicts, from Ukraine to Kashmir, have exposed critical shortages of traditional metals such as [copper](#), which is essential for ammunition, and niche materials such as graphite and germanium used in advanced weapons systems.

Friedland, who co-chairs Ivanhoe Mines, said western governments had belatedly “woken up” to their vulnerability after decades of neglect, adding that it would “change dramatically what we need to mine”.

“Everyone in the American government — at the highest level — is completely concerned with the supply chain, and critical raw materials,” Friedland, a US-Canadian dual citizen, said in an interview. “They don’t have any of the metals that modern warfare requires.”

The warning from a leading industry voice exposes the extent to which China’s dominance of critical minerals and the global battle to secure essential raw materials pose a threat not just to western industry but to America’s military dominance.

US President Donald Trump has issued several executive orders on minerals since taking office in January that seek to boost domestic mining and deep sea extraction.

Military drones and satellites deployed in combat are built using an array of niche metals, while the stable power supplies and huge data servers on the ground needed to run the equipment require many of the same materials.



Robert Friedland: ‘Everyone in the American government is completely concerned with the supply chain, and critical raw materials’ © Aaron M. Sprecher/Bloomberg

The rare earth metal scandium is used in aerospace, beryllium is a lightweight component of fighter jets, and semiconductors can contain gallium.

The surge in military demand comes amid the simultaneous growth of renewable energy that have combined to supercharge demand for copper, said Friedland, whose company is a leading copper producer.

“The military aspect is demanding a lot of the same metals, if not exactly the same metals, that the greening of the world economy also needs,” he explained. Electrical grids, solar panels and other forms of renewable energy will require large amounts of copper, which is used in wiring.

Leading companies including BHP, Glencore and Barrick Mining are racing to build or buy new copper mines because of a looming supply shortage expected in the next decade.

Jon Barnes, copper analyst at market intelligence firm Project Blue, estimates that the copper demand boost from higher military spending is about 500,000 tonnes per year, or about 1.5 per cent of annual demand. The exact amount is difficult to quantify due to the secrecy surrounding national weapon stockpiles.

Russia’s war in Ukraine illustrated how existing ammunition stockpiles were “far too low”, particularly for artillery shells, he noted.

“US production of 155mm standard artillery rounds doubled last year, and will double again this year, both to supply Ukraine and to replenish strategic reserves,” said Barnes, noting that each shell contained up to 1kg of copper.

Bullets and shells are often made of brass, an alloy of copper and zinc.

David Goldman, head of trading at the Novion Global brokerage, estimated that rising defence budgets and rearmament were increasing the copper demand from western militaries by between 15 and 18 per cent per year. This was a “critical factor underpinning the metal’s market tightness and long-term demand outlook,” he added.

Yet a report from the Carnegie Endowment think-tank in February found that mineral inventories in the US National Defense Stockpile had dwindled since the 1950s, and

would cover less than half the military demand in a hypothetical one-year conflict.

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