



HOUSE COMMITTEE ON  
**NATURAL RESOURCES**  
CHAIRMAN BRUCE WESTERMAN

**To:** Subcommittee on Oversight and Investigations Republican Members  
**From:** Oversight and Investigations Subcommittee Staff, Sang Yi – [sang.yi@mail.house.gov](mailto:sang.yi@mail.house.gov); 202-226-5180  
**Date:** February 9, 2023  
**Subject:** Oversight Hearing titled “*Dependence on Foreign Adversaries: America’s Critical Minerals Crisis*”

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The Subcommittee on Oversight and Investigations will hold an oversight hearing titled, “Dependence on Foreign Adversaries: America’s Critical Minerals Crisis” on **Thursday, February 9, 2023, 9:00 a.m.** in Room 1324 Longworth House Office Building.

Member offices are requested to notify Sang Yi ([sang.yi@mail.house.gov](mailto:sang.yi@mail.house.gov)) by 4:30 p.m. on February 8, 2023, if their Member intends to participate in the hearing.

## **I. KEY MESSAGES**

- Maximizing domestic production and development of hardrock minerals is in the best national security, economic, and environmental interests of the United States.
- As demand for critical minerals rises, domestic development ensures minerals are sourced in a safe, sustainable manner, avoiding suppliers that permit unacceptable labor conditions or have minimal concern for environmental impact.
- While the Biden administration’s drive for a massive scale-up in renewable energy is contributing to the rapid growth of mineral demand, it is imperative to strengthen U.S. supply by enhancing access to domestic hardrock mineral resources.

## **II. WITNESSES**

- Mr. Jason George, Business Manager, International Union of Operating Engineers Local 49, Minneapolis, MN
- Mr. Nick Loris, Vice President of Public Policy, C3 Solutions, Arlington, VA
- Dr. Michael Moats, Professor and Department Chair of Materials Science and Engineering, Missouri University of Science and Technology, Rolla, MO
- [Minority Witness]

### III. BACKGROUND

U.S. dependence on foreign sources for critical and other hardrock minerals has reached alarming rates. For example, in 2019 the United States was “import-reliant for 31 of 35 critical minerals and ha[d] no domestic production for 14 of those minerals.”<sup>1</sup> While the United States was 100 percent import-reliant on minerals such as graphite, manganese, niobium, rare earths, and tantalum, Americans were more than 75 percent reliant on foreign producers of minerals such as antimony, barite, bauxite, bismuth, postash, rhenium, tellurium, tin, titanium concentrate, and uranium.<sup>2</sup> Meanwhile, China dominated the production of 16 of 35 critical minerals.<sup>3</sup> These minerals include yttrium, gallium, magnesium metal, tungsten, bismuth, and rare earth elements.<sup>4</sup> Today, the United States is “dependent on China for more than 50 percent of [its] supply for 25 different minerals.”<sup>5</sup> Whether to build electric cars, wind turbines, electronics, lasers, medical supplies, or for military needs, these critical minerals are essential to U.S. national security and economic development.

#### *Demand and Clean Energy Goals*

Demand for many of these minerals is predicted to exponentially grow, driven in part by a strong national and global push to increase renewable energy. For example, President Biden’s commitments to reach net-zero emissions by 2050<sup>6</sup> will necessitate a massive scale-up of renewables in the upcoming decades. The massive scale-up will inevitably require substantial increases in mineral extraction to meet the demand. The World Bank predicted demand increases of graphite, lithium, and cobalt of almost 500 percent by the year 2050.<sup>7</sup> In their World Energy Outlook Special Report, the International Energy

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<sup>1</sup> ClearPath, *Time to Build a Domestic Critical Minerals Supply Chain*, [https://clearpath.org/our-take/time-to-build-a-domestic-critical-minerals-supply-chain/?gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbD6u\\_tPM6dwPWDI\\_8AJyM2VUJG4eYrUmz1yZkpTpdDvgWoQPTXwO4aAnotEALw\\_wcB](https://clearpath.org/our-take/time-to-build-a-domestic-critical-minerals-supply-chain/?gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbD6u_tPM6dwPWDI_8AJyM2VUJG4eYrUmz1yZkpTpdDvgWoQPTXwO4aAnotEALw_wcB) (last visited Feb. 1, 2023).

<sup>2</sup> CONG. RESEARCH SERVICE, *Critical Minerals and U.S. Public Policy*, R45810 (June 28, 2019), available at [https://www.everycrsreport.com/files/20190628\\_R45810\\_b3112ce909b130b5d525d2265a62ce8236464664.pdf](https://www.everycrsreport.com/files/20190628_R45810_b3112ce909b130b5d525d2265a62ce8236464664.pdf).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> Ben Liberman, Competitive Enterprise Inst., *U.S. Geological Survey Study Underscores Extent of Import Dependence for Critical Minerals*, Feb. 4, 2023, <https://cei.org/blog/u-s-geological-survey-study-underscores-extent-of-import-dependence-for-critical-minerals/>.

<sup>6</sup> THE WHITE HOUSE, Fact Sheet: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies (Apr. 22, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/> (last visited Feb. 1, 2023).

<sup>7</sup> Press Release, The World Bank, *Mineral Production to Soar as Demand for Clean Energy Increases*, May 11, 2020, <https://www.worldbank.org/en/news/press-release/2020/05/11/mineral-production-to-soar-as-demand-for-clean-energy-increases>.

Agency (IEA) estimated that a global net-zero emission goal would require “six times more mineral inputs in 2040 than [in March 2022].”<sup>8</sup>

### *Foreign Reliance on China*

China is unquestionably the biggest producer in the global minerals market, controlling much of the extraction and refinement capacity for many of the most important commodities. When not mined in China, many minerals are mined in Chinese-owned mines in Africa or other continents. For example, approximately 70 percent of the world’s cobalt is mined in Congo.<sup>9</sup> In 2020, “Chinese firms owned or had a stake in 15 of Congo’s 19 cobalt-producing mines.” Not only does China lead in production, it dominates in cobalt refining.<sup>10</sup> Additionally, China “produces three-quarters of the world’s lithium ion batteries, and almost all the metals needed to make them are processed there.”<sup>11</sup> In its investigation of U.S. foreign reliance on critical minerals, the U.S. Geological Survey (USGS) indicated that bismuth, yttrium, arsenic, antimony, indium, germanium, gallium, and tantalum “that were consumed in the United States were obtained from . . . predominantly China.”<sup>12</sup>

### *Human Rights and Environmental Concerns*

While China is a dominating force in the global minerals market and as U.S. dependence on Chinese produced minerals grow, labor conditions and other practices at Chinese-operated mines cannot be ignored. According to the 2022, Human Freedom Index, which includes labor market regulations, China ranks 152 out of 165 analyzed countries.<sup>13</sup> China’s bottom-tier ranking is unsurprising given evidence of forced labor at some mines. For example, human rights groups have flagged forced labor concerns in China’s western Xinjiang region, where Xinjiang Nonferrous Metal Industry Group arranged 70 ethnic Uyghur worker recruits standing at attention under the Chinese flag.<sup>14</sup> The Chinese government denies forced labor but acknowledges “running what it describes as a work transfer program that sends Uyghurs and other ethnic minorities . . . to jobs . . . .”<sup>15</sup>

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<sup>8</sup> INT’L ENERGY AGENCY, *The Role of Critical Minerals in Clean Energy Transitions* (Mar. 2022), 7, available at <https://iea.blob.core.windows.net/assets/ffd2a83b-8c30-4e9d-980a-52b6d9a86fdc/TheRoleofCriticalMineralsinCleanEnergyTransitions.pdf>.

<sup>9</sup> THE ECONOMIST, *How Chinese Firms Have Changed Africa*, May 20, 2022, <https://www.economist.com/special-report/2022/05/20/how-chinese-firms-have-changed-africa>.

<sup>10</sup> *Id.*

<sup>11</sup> Ana Swanson and Chris Buckley, THE N.Y. TIMES, *Red Flags for Forced Labor Found in China’s Car Battery Supply Chain*, Nov. 4, 2022, <https://www.nytimes.com/2022/06/20/business/economy/forced-labor-china-supply-chain.html>.

<sup>12</sup> U.S. Geological Survey, *Investigation of U.S. Foreign Reliance on Critical Minerals – U.S. Geological Survey Technical Input Document in Response to Exec. Order No. 13953 Signed Sept. 30, 2020*, Open-File Report 2020-1127, 5, available at <https://pubs.usgs.gov/of/2020/1127/ofr20201127.pdf>.

<sup>13</sup> CATO, *Human Freedom Index 2022*, <https://www.cato.org/sites/cato.org/files/2023-01/human-freedom-index-2022-country-profiles.pdf>.

<sup>14</sup> *Supra* note 11.

<sup>15</sup> *Id.*

While companies with origins other than China may not always engage in best practices, “[t]he most serious recent allegations are about Chinese companies’ operations in the DRC [Democratic Republic of Congo], reportedly involving corruption and violation of human rights, including forced evictions, child labor, and other labor and human rights abuses through subcontracting models.”<sup>16</sup> For example, there are reports of child labor in the Katanga region of the Congo where children work for \$2 a day.<sup>17</sup> One human rights activist recently took photographs of young children approximately six years old “carrying large bags of rocks and mothers working laboriously while carrying their babies . . . .”<sup>18</sup>

High risk remains for worker exploitation at mines located in other continents operated by Chinese companies, but local communities are also victimized by those same entities. An international human rights organization alleged that between 2018 and 2020 communities local to a copper and cobalt mine operated by a subsidiary of the Chinese multinational, Jinchuan Group, in the Congo “were deprived of their most basic rights, including the right to property, a decent home, food, water, a healthy environment, and even life.”<sup>19</sup> One local resident is reported to have died from the result of the mining company’s mismanagement of explosives.<sup>20</sup> Moreover, the mining company is reported to use “private security companies . . . disclaim responsibility for interaction with communities.”<sup>21</sup>

Even with Chinese legislation and industry guidelines, “China’s enforcement of due diligence standards appears to be limited, especially given that many of these guidelines are voluntary.”<sup>22</sup> A non-governmental organization focused on natural resources exploitation and human rights, reported in 2021 that “due diligence enforcement was scarce and that more transparency and proactive demonstration of responsible business were needed from Chinese refiners.”<sup>23</sup>

Environmental standards and guidelines used by Chinese-owned minerals industry companies are also questionable. In one instance, a Chinese-owned nickel plant spilled almost 53,000 gallons of “toxic slurry into a bay in Papua New Guinea’s Madang province, turning the water bright red and staining the shore.”<sup>24</sup> According to a Zimbabwean

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<sup>16</sup> Rodrigo Castillo and Caitlin Purdy, *China’s Role in Supplying Critical Minerals for the Global Energy Transition*, July 2022, 16, available at [https://www.brookings.edu/wp-content/uploads/2022/08/LTRC\\_ChinaSupplyChain.pdf](https://www.brookings.edu/wp-content/uploads/2022/08/LTRC_ChinaSupplyChain.pdf).

<sup>17</sup> Ashley Carnahan, *Human Rights Activist Warns of Abuses in Congo Cobalt Mines: “Moral Clock Dialed Back to Colonial Times,”* Jan. 30, 2023, <https://www.foxnews.com/media/human-rights-activist-warns-abuses-congo-cobalt-mines-moral-clock-dialed-back-colonial-times>.

<sup>18</sup> *Id.*

<sup>19</sup> Mind the Gap, *Strategies Used by Ruashi Mining to Avoid Responsibility for Human Rights Violations*, Nov. 23, 2021, available at <https://www.mindthegap.ngo/strategies-used-by-ruashi-mining-to-avoid-responsibility-for-human-rights-violations/>

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*

<sup>22</sup> *Supra* note 16.

<sup>23</sup> *Id.*

<sup>24</sup> Liam Fox, *Chinese-Owned Ramu Nickel Plant Spills 200,000 Litres of “Toxic” Slurry Into the Sea*, AUSTRALIAN BROADCASTING CORPORATION, Aug. 29, 2019, <https://www.abc.net.au/news/2019-08-30/chinese-owned-mine-in-png-spills-200000-litres-of-toxic-slurry/11464108#:~:text=into%20the%20sea-.Chinese%20Downed%20Ramu%20Nickel%20plant%20spills%20200%2C000%20litres%20of,toxic%20slurry%20into%20the%20sea&text=A%20Chinese%20nickel%20mine%20operator,red%20and%20staining%20the%20shore>.

environmentalist, “some Chinese companies don’t even have proper licenses to operate in Zimbabwe [and] these companies are leaving trails of immense environmental degradation across the country, particularly those in extractive sectors . . . .”<sup>25</sup>

### *Conclusion*

The best place for mineral development is in the United States, where we employ world-class scientific advancements and regulate mineral production under some of the world’s most rigorous standards. We must advance a stable supply of critical minerals to meet national and international demand.

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<sup>25</sup> Andrew Mambondiyani, *Zimbabwe: Chinese Mining Firms Accused of Environmental Degradation*, THE EPOCH TIMES, Apr. 14, 2019, [https://www.theepochtimes.com/chinese-companies-tear-down-zimbabwes-environment\\_2854315.html](https://www.theepochtimes.com/chinese-companies-tear-down-zimbabwes-environment_2854315.html).