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January 7, 2026

U.S. Geological Survey's Critical Minerals List

Multiple Congresses and Administrations have considered and developed policies to make U.S. critical mineral supply chains more resilient. In 2020, Congress amended its minerals policies, defined the term *critical mineral*, and directed the U.S. Geological Survey (USGS) to develop and update a critical minerals list (CML). Potential issues facing Congress include the effectiveness of the critical mineral policies and the CML in improving and sustaining the resilience of critical mineral supply chains for the United States. Congress may consider whether to alter legislative direction on critical mineral activities in the context of recent Administrations' actions and supply chain vulnerabilities.

National Materials and Minerals Policy

Congress passed the Consolidated Appropriations Act, 2021 (P.L. 116-260), which amended the National Materials and Minerals Policy, Research, and Development Act of 1980 (1980 Act; P.L. 96-479, 30 U.S.C. §§1601 et seq.), making it U.S. policy to facilitate critical mineral research and development, as well as critical mineral extraction, processing, component, and product development, in the United States and in cooperation with other countries. More specifically, Section 7002 of the Energy Act of 2020 (Division Z of P.L. 116-260, as amended by P.L. 118-233) amended national materials and minerals policy language from the 1980 Act to define *critical mineral* in statute and to specify criteria for developing a CML. The Energy Act of 2020 directed the Secretary of the Interior, acting through the USGS Director, to identify critical minerals and develop a CML.

Definition of *Critical Mineral*

Pursuant to the Energy Act of 2020, a *critical mineral* is any mineral, element, substance, or material designated as critical by the USGS because it is essential to the economic and national security of the United States, has a vulnerable supply chain, and serves an essential function in manufacturing a product. The definition excludes fuel minerals; water, snow, or ice; and common varieties of sand, gravel, stone, pumice, cinders, and clay.

USGS 2025 Critical Mineral List

On November 7, 2025, the USGS published a "Final 2025 List of Critical Minerals" in the *Federal Register*. The 2025 CML of 60 critical minerals includes the following:

> aluminum, antimony, arsenic, barite, beryllium, bismuth, boron, cerium, cesium, chromium, cobalt, copper, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, germanium, graphite, hafnium, holmium, indium, iridium, lanthanum, lead, lithium, lutetium, magnesium, manganese, metallurgical coal, neodymium, nickel, niobium, palladium, phosphate, platinum, potash, praseodymium, rhenium, rhodium, rubidium, ruthenium, samarium, scandium, silicon, silver, tantalum, tellurium, terbium, thulium, tin, titanium, tungsten, uranium, vanadium, ytterbium, yttrium, zinc, and zirconium.

The 2025 CML differs from an earlier CML that the USGS published in 2022 (hereinafter, the 2022 CML). Copper, lead, potash, rhenium, silicon, and silver are new additions to the 2025 CML compared with the 2022 CML based on USGS assessments.

The USGS added six other minerals to the 2025 CML based on interagency and public input. Specifically, the Department of Defense (DOD, now using a secondary Department of War designation under Executive Order [E.O.] 14347, dated September 5, 2025) recommended adding arsenic and tellurium for national security reasons (the USGS had removed these minerals in the 2025 draft CML). The Department of Energy (DOE) recommended adding metallurgical coal and uranium for steel production, energy, and defense reasons. The Department of Agriculture recommended adding phosphate for food security reasons, and some public comments to the 2025 draft CML recommended adding boron for supply chain vulnerability reasons.

USGS 2025 Methodology for the 2025 CML

The USGS used a different methodology to determine the 2025 draft CML and the 2025 CML compared with the 2021 methodology to determine the 2022 CML. The 2025 methodology evaluated mineral commodity supply risk using two criteria:

> 1. a quantitative assessment of the potential effects of various trade disruption scenarios on the U.S. economy and
>
> 2. for a mineral commodity without enough data for a quantitative assessment, an examination of whether the mineral commodity's U.S. supply chain relied on a sole domestic producer that represented a single point of failure.

The economic effects quantitative assessment considered 1,200 supply disruption scenarios for 84 mineral commodities using data from 2023 for most commodities. The assessments largely reflect U.S. net import reliance and the concentration of a mineral's production in one or a few locations. The USGS included a mineral commodity on the 2025 list if the mineral had an annualized probability-weighted net decrease in U.S. gross domestic product greater than $2 million. Zirconium was included on the 2025 CML based on the second criterion above, a single

point of failure in its supply chain. Cesium, rubidium, and scandium are on the 2025 CML based on a qualitative assessment due to insufficient data to apply the USGS 2025 methodology.

Critical Mineral Uses and Producing Countries

The USGS "About the 2025 List of Critical Minerals" webpage provides more information about the minerals on the 2025 CML, their uses and importance, USGS technical details, and an interactive Critical Minerals Atlas showing where critical minerals are produced around the world. The USGS "Mineral Commodities Summary 2025" dashboard provides other details about the minerals on the 2025 CML. The USGS may update this dashboard annually.

Identifying Critical Mineral Resources in the United States

The USGS is prioritizing the identification of critical mineral resources in its assessment of potential domestic resources and other research. In June 2021, Congress, via the Infrastructure Investment and Jobs Act (IIJA; P.L. 117-58), authorized and appropriated funds for a national mineral research, mapping, and assessment initiative by the USGS called the Earth Mapping Resources Initiative. In addition, Section 40210 of the IIJA codified the efforts of the National Science and Technology Council's Critical Minerals Subcommittee to coordinate federal science and technology efforts for supply chain resiliency.

Comparison to DOE Critical Materials List

Pursuant to Section 7002(a)(2) of the Energy Act of 2020, DOE prepared and published in the *Federal Register* a 2023 DOE Critical Materials List. This list includes critical *materials* for energy and the critical minerals on the 2022 CML. On May 22, 2025, DOE announced that metallurgical coal used for steelmaking was added to the DOE Critical Materials List pursuant to E.O. 14261. DOE plans to update the 2023 *Critical Materials Assessment*, which led to the 2023 Critical Materials List, in 2026.

The 2023 DOE Critical Materials List includes the following:

> *Critical materials for energy:* aluminum, cobalt, copper, dysprosium, electrical steel (grain-oriented electrical steel, non-grain-oriented electrical steel, and amorphous steel), fluorine, gallium, iridium, lithium, magnesium, natural graphite, neodymium, nickel, platinum, praseodymium, terbium, silicon, and silicon carbide
>
> *Critical minerals:* The 2022 CML includes 50 minerals: Aluminum, antimony, arsenic, barite, beryllium, bismuth, cerium, cesium, chromium, cobalt, dysprosium, erbium, europium, fluorspar, gadolinium, gallium, germanium, graphite, hafnium, holmium, indium, iridium, lanthanum, lithium, lutetium, magnesium, manganese, neodymium, nickel, niobium, palladium, platinum, praseodymium, rhodium, rubidium, ruthenium, samarium, scandium, tantalum, tellurium, terbium, thulium, tin, titanium, tungsten, vanadium, ytterbium, yttrium, zinc, and zirconium.

Four critical materials for energy—copper, electrical steel, silicon, and silicon carbide—are not on the 2022 CML. The USGS did not consider electrical steel and silicon carbide in its assessments. The USGS considered copper and silicon under its 2022 methodology and assessed these materials as noncritical using data from 2015-2018. Copper and silicon, however, are on the 2025 CML based the USGS 2025 methodology and more recent data from 2023. Minerals added to the 2025 CML—boron, lead, phosphate, rhenium, silver, and uranium—are not on the 2023 DOE Critical Materials List.

Congressional Considerations

Congress may consider if the definition of critical mineral and the USGS CML are sufficient to inform national materials and minerals policies or if Congress should amend mineral-related policies. In the 119th Congress, legislation has been introduced that would codify some E.O.s or some parts of E.O.s related to resilient critical mineral supply chains (e.g., H.R. 3803 and H.R. 4370). H.R. 4090, the Critical Mineral Dominance Act, would codify some provisions of certain E.O.s (e.g., E.O. 14154, "Unleashing American Energy"; E.O. 14241, "Immediate Measures to Increase American Mineral Dominance") related to domestic mining and hardrock mineral resources, including accelerating domestic geologic mapping to identify hardrock mineral resources. H.R. 4090 defines *hardrock mineral* and does not use the definition of critical mineral at 30 U.S.C. 1606(a)(3).

Members may consider whether the various purposes for which different federal departments construct their lists are sufficient to inform national materials and minerals policies and to what extent the departments should coordinate their efforts to identify critical minerals and critical materials. In addition to the USGS and DOE lists, DOD's Defense Logistics Agency assesses the supply chain risks for materials needed on an emergency basis for more than 250 strategic and critical materials.

S. 823 and H.R. 3198 (119th Congress), the Intergovernmental Critical Minerals Task Force Act, would amend the National Materials and Minerals Policy, Research, and Development Act of 1980 (30 U.S.C. §1604) to establish an Intergovernmental Critical Minerals Task Force. The task force would consist of federal entities that would consult with state, local, tribal, and territorial entities to combat U.S. reliance on critical minerals and rare earth elements from China and other covered countries.

Other legislation introduced in the 119th Congress would consider securing reliable supplies of critical minerals from other countries. S. 789, the Critical Minerals Security Act of 2025, would direct the Department of the Interior to assess global supply and ownership of mining, processing, and recycling operations and to collaborate with U.S. allies and partners to develop mining, processing, and recycling technologies.

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