



# Mining and Metallurgical Society of America

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## Long-term Supply of Critical Minerals Affected by Permitting Delays May 6, 2022 – Webinar - 1pm MT

### Topic Summary

MMSA has presented several Webinars related to critical minerals and the supply chain. This Webinar summarizes sources of critical mineral deposits, uncertainties about how the demand will be met, and effects of regulation on domestic production.

### Presenters:

#### Virginia McLemore - Abstract

Critical minerals are mineral resources that are essential to our economy and national security, and whose supply may be disrupted; many critical minerals are 100% imported into the U.S. The list of critical minerals will vary from country to country with time. The U.S. is import reliant on minerals from dozens of nations, some of which are located in politically unstable regions of the world, often governed by regimes whose interests are not aligned with those of the U.S. Other countries engage in unfair business practices, including predatory pricing, to control markets and manipulate global supply. In 2021, the U.S. was dependent on foreign sources for 49 nonfuel mineral materials, including rare earth elements (more than 50% of those commodities were imported), 17 of which the U.S. imported 100 percent of the nation's requirements. In May 2018, the Department of the Interior published a list of 35 critical minerals<sup>1</sup> which was updated in 2022. Economic deposits of many critical minerals are found as by-products or co-products of other mineral deposits and depend upon the demand and production of that main commodity. Other critical minerals are found in their own primary deposits, but only a few deposits are needed to meet current demand. However, future demand of most critical minerals is uncertain. Many research programs throughout the U.S. are focusing on identifying critical mineral deposits, mining, new processing techniques, and recycling critical minerals to meet future needs.

**Virginia McLemore** is a Certified Professional Geologist and the Principal Senior Economic Geologist and Minerals Outreach Liaison for the New Mexico Bureau of Geology and Mineral Resources. Virginia provides mining and minerals-related information concerning New Mexico to decision makers, general public, scientists, environmental groups, and the mining industry (including consulting firms). She is responsible for many activities including: writing the New Mexico State Minerals information for the USGS Minerals Yearbook every year and summarizing the economic impact of the mining industry to New Mexico; compiling minerals production and resource/reserve statistics in New Mexico; assisting

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<sup>1</sup> (See, "Final List of Critical Minerals 2018" 83 Fed. Reg. 23295; 2018 <https://www.federalregister.gov/documents/2018/05/18/2018-10667/final-list-of-critical-minerals-2018> ), [2022-04027.pdf (federalregister.gov)]

state and federal agencies on mining issues; maintaining the NURE data and Uranium Archives as well as the New Mexico Mines Database; sitting on numerous committees related to mine hazards, spills, and other mining related issues; and teaching a graduate level class for New Mexico Tech.

**Sam Ballingrud - Abstract:**

Recent political and economic developments have brought new attention to the need to expedite domestic development of critical minerals. In addition to recent executive action, recent reforms in the federal permitting process aim to ease supply-side constraints by expediting the development and exploitation of critical minerals. One certainty in this uncertain time is that the demand for critical minerals will continue to increase in the coming years as countries push a green transition to meet Paris Accord targets and as countries aim to develop supply chains insulated from external political shock. The demand for critical minerals is robust and largely insulated from the current political climate. Amid high demand, the supply of critical minerals faces significant hurdles including both short- and long-term capacity strains given political instability in key regions, and an uncertain trade outlook, and—most of all—skyrocketing demand. On the demand side, the International Energy Agency reports that demand for critical minerals related to electric vehicles and battery storage will soar by orders of magnitude in the coming years, to say nothing of critical minerals' increasing use.

Meeting this demand will require significantly more production, but it is very difficult for the industry to move quickly in response; large-scale mining projects are heavily regulated and the permitting process can take an extended period of time with success far from assured. Analysts have long been warning that the industry is under-investing in new projects, raising concerns over the long-term supply of critical minerals. Examining the political and legal environment for domestic mining will illustrate what has changed and what remains the same at a time of great uncertainty and promise for the industry.

**Sam Ballingrud** is Associate in the Environmental, Safety & Health Group at Squire Patton Boggs. Prior to joining the firm, Sam served as a law clerk to Magistrate Judge Nina Y. Wang of the US District Court for the District of Colorado. During this time, he managed part of the judge's docket, wrote orders, attended conferences and discussed case matters. Sam also served as a law clerk to Justice Brian D. Boatright of the Colorado Supreme Court, where he drafted opinions and dissents, and researched and wrote memoranda on petitions for certiorari.

This Webinar can be viewed at: [https://youtu.be/L6ge\\_FGFRgc](https://youtu.be/L6ge_FGFRgc)

**MMSA Webinars are supported by the MMSA Jackling Foundation.**

# Questions and Answers

***NOTE: The questions were answered verbally during the Webinar and can be accessed in the recording.***

**Donald Cameron:** The presentation is very well done and packed full of facts and understanding of the issues involved. This critical minerals policy is top-down driven. We are mining professionals, supposedly educated. Why are we just going along? Clean energy isn't clean, it isn't efficient. It isn't sustainable. Many of these minerals and elements are being used for our war adventures and technological enslavement. Why aren't professional societies and we as members calling this for what it is?

**Melissa Sanderson** Assuming a remarkable degree of political courage, if Pres Biden actually fully invoked the Defense Powers Act, could he mandate strict limits on each phase of the permitting process overall, which could result in a substantial reduction of getting to operations - ie., 3-5 years instead of 7-10?

**Donald Cameron:** My question was in relation to the first talk, but the second talk was interesting, too. That's the difference between discipline and enabling. Government is the child. Corporations will not lead. If we are just feeding the pig as professionals, these organizations are just trade lobbyists.

## **Other Comments:**

From **Francisco Sotillo** to Hosts and panelists:

Coming from the comment of Betty, should we have more smelters that imports poly metallic concentrates to keep the metals like indium, germanium, etc. for our industry instead of sending our concentrates? Some of the concentrates produced in USA are not that rich in other metals, such as our copper concentrates. Also, many ores are processed using hydro metallurgy, which does not recover these metals.

From **Mark Leo-Russell** to Everyone:

Thanks everyone. good stuff today.