

# Full Committee Hearing On Domestic Critical Mineral Supply Chains

Thursday, March 31, 2022

## Chairman Manchin's Opening Statement

- The committee will come to order.
- We're here today to talk about the opportunities and challenges related to the production of critical minerals – whether through traditional mining, processing and refining, or innovative secondary recovery and reprocessing techniques.
- Welcome to our witnesses, and thank you for being here for this discussion.
- Next week, we will continue this conversation about critical mineral supply chains and discuss the demand side, and how industry will obtain and recycle these vital materials.
- These conversations are so important right now as the horrifying events in Ukraine show how problematic our reliance on foreign suppliers who may not share our interests or values can be.
- In the immediate term our concern is, of course, Russia.
- But I am also extremely concerned with China as the gatekeeper of the critical materials we need for everyday life, in addition to the minerals crucial to energy and defense applications.
- It makes no sense to remain beholden to bad actors when we have abundant resources and manufacturing know-how here in the United States.

- And make no mistake – we are beholden, particularly when it comes to many of the minerals that go into clean energy technologies.
- That is why I’ve sounded the alarm about going down the path of EVs alone, and advocated for equal treatment for hydrogen.
- China mines 60 percent of global rare earth elements, crucial to high-tech applications and the magnets needed for electric motors. Even more shocking, China processes almost 90 percent of the rare earths regardless of where they are mined.
- The only large-scale producers of cobalt are in the Democratic Republic of Congo, where Chinese interests control many of the mines – and then 65 percent of the processing is done in China.
- Lithium is mined extensively by Australia, an ally that produces over 50 percent of global supply. However, China processes over 58 percent of global lithium and uses that material to feed their lithium-ion battery manufacturing.
- It’s clear that we have a problem, and the United States Geological Survey concurs.
- The USGS has identified 50 minerals as “critical” – meaning that the supply is crucial to our national or economic security and at risk of a supply disruption.
- I believe so strongly that we need to address vulnerabilities rather than increase them.

- Now, this is not to say we have failed to take any action to address these risks.
- This Committee got the Energy Act of 2020 across the finish line at the end of the 116th Congress, which contained several important provisions related to critical minerals.
- Then-Chairwoman Murkowski and I led the effort to include the American Mineral Security Act – which created the critical mineral listing process and provided the first comprehensive update to critical minerals and materials policy since 1980.
- The Energy Act also included my bill to accelerate the research and development needed to recover rare earth elements and other critical minerals from coal and coal by-products.
- The bipartisan Infrastructure Investment and Jobs Act built on those efforts with serious investments to the tune of \$3 billion to build domestic battery material processing facilities and fund battery processing demonstration projects.
- We also expanded the Department of Energy’s Innovative Energy Loan Guarantee program so that critical mineral projects are now eligible.
- Lesser known, but equally vital, provisions made improvements to the permitting process, accelerated the Geological Survey’s mapping efforts to support mineral development, and funded a program to create a commercial demonstration of a rare earth processing facility fed by mineral waste.

- While we have made such good progress, there is so much more to be done.
- Right now we're not mining, processing, manufacturing, or recycling these materials domestically.
- And these issues aren't solved overnight - many actions we need to take have long planning, permitting, and construction timelines, so the work needs to start now and the Administration needs to help make responsible mining and refining possible here, rather than making it more difficult.
- New mines will be needed, both here in the United States and all over the world, but we must not become so desperate for these minerals that we throw our bedrock environmental and labor laws out the window, or rely on countries that don't adhere to the same standards.
- Mining companies today find it harder and harder to obtain and maintain their social license to operate.
- As I've said before I believe that reasonable updates to the Mining Law of 1872 would go a long way towards addressing those concerns.
- It only takes one or two accidents to put a stain on the entire industry, and when you lose buy-in from the local communities, the entire nation can be affected.
- I also believe this is another area we should lean on a North American Energy Alliance and work with our Canadian neighbors to source what doesn't make sense to do domestically.

- And there is no reason the United States cannot utilize our manufacturing base and leverage our relationships with friendly nations, like Australia and Canada, to ensure that their critical minerals are sent here for processing instead of China.
- However, in order to accomplish this, we first need to establish our own domestic separation, processing, and refining capabilities – and make sure we’re not exporting our own critical minerals for processing somewhere else.
- So while we’ve made some strides in the laws I mentioned, that was just a first step. I want to know where other challenges exist and the opportunities to tackle them.
- Finally, we should be getting creative and exploring innovative solutions to the problem.
- Using new approaches to extract critical minerals, like rare earths, from old mine tailings, waste materials, and even acid mine drainage can be an opportunity to address an environmental problem and the critical mineral challenge at the same time.
- To that end, I am very pleased to have Dr. Ziemkiewicz here to share the good work he is doing as Director of the West Virginia Water Resources Institute at West Virginia University.
- As many of you know, our coal communities bear the scars of having mined the coal to power this country to greatness.

- This legacy includes acid mine drainage that pollutes streams across West Virginia as a result of abandoned and bond-forfeited mines.
- But while this harmful pollution is a blight on our communities, Paul and his team have done incredible work in partnership with the National Energy Technology Laboratory and the West Virginia Department of Environmental Protection.
- They are demonstrating that we can clean up these problem areas while extracting the rare earth elements we need in the process.
- This work has the potential to be a game changer, and I'm told that it could even assist many of our western states with acid mine drainage from hardrock mines.
- Dr. Z, I am thrilled to have you with us today and look forward to hearing about the progress you all are making.
- In closing, the critical mineral issue is of vital and urgent importance to our national and economic security.
- I truly believe that this is a bipartisan issue that we can work together to address – and we've taken some steps in that direction.
- Senators Murkowski, Risch, Cassidy, and I recently sent a letter asking the President to utilize the Defense Production Act to accelerate our production of critical minerals for lithium-ion batteries.

- It sounds like there might be an announcement being made today to take steps in that direction, and I welcome that news and look forward to seeing the details.
- Additionally, Senator Barrasso and I have introduced the Mining Schools Act of 2022 to ensure we have the next generation of STEM graduates to tackle this problem.
- Demand is increasing for minerals vital to clean energy and national security technologies, as well as for the everyday tools and comforts we take for granted.
- We must take action domestically or we'll be putting our own security at risk by allowing China this power over our supply chains.
- I appreciate our witnesses for being here today to help us understand what we can do to address our critical mineral vulnerabilities.
- With that, I will turn to Senator Barrasso for his opening remarks.