



FREQUENTLY ASKED QUESTIONS

REMINING FOR THE CLEAN ENERGY TRANSITION: ITS POTENTIAL AND RISKS

After Earthworks, Transport and Environment, and Earthjustice launched the peer-reviewed “Remining for the Clean Energy Transition” report authored by Dr. Ann Maest, the three organizations hosted two webinars to present remining in the context of the United States and the European Union. Some of the insightful discussions were condensed in this Frequently Asked Question series.

To bring more attention to the studies and guardrails that are needed before remining can support a safe, just, and sustainable clean energy future, help us continue this important conversation. Please contact Ms. Jan Morrill, Tailings Campaign Manager of Earthworks at jmorrill@earthworksaction.org, for an interview, speaking engagement, or meeting.

IS REMINING DIFFERENT FROM MINING? IS THE FORMER A “SAFER” OPTION?

Remining is mining. It should only be done with the consent of Indigenous and other affected communities. Under the highest environmental and labor regulations, remining can play a part in the circular economy because it has the potential to (a) reduce demand for primary extraction by supplying some minerals to support the clean energy transition and (b) clean up former mine sites in need of remediation. However, for it to be considered a viable source for transition minerals, more research and stringent processes, standardized practices, and mandatory regulations are needed to stop mining corporations from perpetuating harm on people, communities, and the environment.

HOW IS REMINING REGULATED AND MONITORED ACROSS THE WORLD?

In some countries such as South Africa, remining is considered as processing. The country’s government agencies that manage water and environment oversee remining facilities. Its Minister of Mine acknowledged this regulatory gap after the 2022 Jagersfontein tailings dam disaster killed two people, injured 40, and destroyed more than 160 homes.

Had the facility been classified as mining, the government’s mining agency would have had the responsibility to monitor the operations of the failed tailings dam.

WHAT DO WE KNOW ABOUT THE POTENTIAL RISKS OF REMINING TO PEOPLE, COMMUNITIES, AND THE PLANET?

1. New releases of contaminants from waste piles into air, water, and/or land
2. Tailings dam failures from the rehandling of mine waste
3. Repeat of environmental injustices to communities already impacted by mining
4. Increased levels of greenhouse gas emissions and other pollutants from the building of and possible mismanagement of new smelters



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WHAT ARE THE PROCESSES, REGULATIONS, AND PRACTICES NEEDED TO MAKE REMINING SAFE, JUST, AND SUSTAINABLE?

1. Establish industry-wide procedures for mineral characterization, independent safety evaluations of mineral processing, and policies to protect cultural and spiritual sites of Indigenous Peoples.
2. Create guidelines for environmental, human, and ecological health, worker safety and protection, emergency evaluation and preparedness, and requirements for financial bonding and assurance.
3. Institute baseline criteria to measure water, energy, greenhouse gas use and emissions during the lifecycle of the project.
4. Embed circular economy programs into remining projects.
5. Compliance of mining companies of updated mining rules and requirements, including their submission to be assessed under the National Environmental Policy Act's Environmental Impact Statement.

ARE THERE ENVIRONMENTAL IMPACTS OF REMINING THAT ARE NOT ADDRESSED IN US POLICIES AND REGULATIONS?

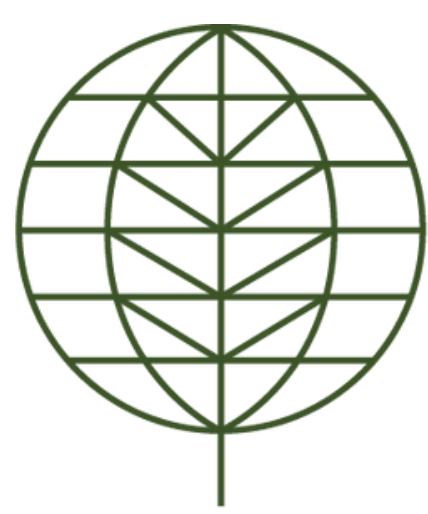
The United States' 1872 mining law does not have adequate environmental standards, enforcement and oversight powers, financial guarantees, or royalties. It does not recognize Tribal sovereignty or define parameters for land managers to deny the building and operation of mines in areas where they do not belong.

The US Administration and Congress must update the country's domestic mining law and rules to ensure the highest environmental and social standards for mining and remining operations.

IS THE US FEDERAL GOVERNMENT INVOLVED IN REMINING?

The US Government is involved in remining through the United States Geological Survey (USGS). However, the agency does not engage in mining of any type. Instead, USGS's [Earth Mapping Resources Initiative](#) presents an inventory of [mine waste sites across the country](#). It is now investigating and sampling these facilities' metal content to prioritize which areas are most feasible for remining.

The Department of Energy is also directing various funds towards research on mineral procurement such as the reprocessing of coal ash from "unconventional sources," which can include remining activities.



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IS THE PRIVATE SECTOR BEGINNING REMINING OPERATIONS?

Sweden's Luossavaara-Kiirunavaara Aktiebolag (LKAB), which produces 80 percent of Europe's iron ore, has started to remine for rare earth elements in their massive mine. The Golden Sunlight Mine in Montana, which has an Environmental Impact Statement for its project, is also drawing out gold from tailings in their mine and those of other mines. Others are also examining their byproducts to recover tellurium and other metals. However, they are nowhere near being active remining sites.

ARE THERE RELIABLE TECHNOLOGIES FOR THE CHARACTERIZATION AND IDENTIFICATION OF PHYSICAL-CHEMICAL COMPOSITION OF ALL TYPES OF TAILINGS, PARTICULARLY FOR LEGACY POLYMETALLIC MINES? WHAT ARE THE CHALLENGES TO THESE?

The United States Geological Survey (USGS) is doing a good job of analyzing mine waste samples, including acid mine drainage and associated sludge samples for total constituents and mineralogy. Other characterization methods can be borrowed from economic geology such as mineral liberation analysis.

Mining companies can also use acid digestion or analyze samples for total metals using Atomic Absorption Spectroscopy, Inductively Coupled Plasma (ICP), and ICP-Mass Spectrometry.

But there can be some challenges to characterizing compositions. One is the weathering of tailings over a period of time because metal sulfide minerals may oxidize to metal sulfate minerals. Nonetheless, mineralogy will still reveal the makeup of any mineral or metal.

WHO IS RESPONSIBLE FOR A CLOSED MINE SITE BEFORE IT CAN BE PERMITTED TO BE REMINED?

The mining company is responsible for all closure and reclamation activities, according to the terms of their permits from the land management and environmental agencies. Those terms also determine ownership and liabilities over mine sites. If a mining company were to propose remining, that company would be responsible. From there, the government, the mining company, and an independent third-party group must establish and agree on a baseline to assess the quality of water, air, land, as well as the level of greenhouse gas emissions to enforce accountability and transparency.



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CAN REMINING BE CONSIDERED A NET POSITIVE AND WORTH THE INVESTMENT?

The gains of remining must be evaluated on a case-to-case basis according to its economic, environmental, and safety impacts on each community. More importantly, an assessment of whether the required processes and standards are embedded in the policies of mining companies and that these are complied with are critical before remining can be considered a worthy investment.

ARE THERE PROVISIONS IN OUR US CLEAN ENERGY POLICY THAT STATE REMINING MINERALS AND METAL, OR SOME MINIMUM RATIO OF THEM, WILL GO TO RENEWABLES AND CLIMATE-RELATED INDUSTRIES AND PRODUCTS?

Majority of today's remining operations are for gold and diamonds. As such, there are no US provisions that earmark remined metals or products for renewables and climate-related industries.

IN SOME CASES, DAMS CAN CARRY AS MUCH AS 8 BILLION GALLONS OF MINE WASTE CALLED TAILINGS, SLUDGE, OR SLURRY. CAN REMINING REMEDIATE THESE?

While much has been invested to extract rare earth elements from the ground, little progress has been made to effectively remediate impoundments from hard rock tailings, wet tailings, and slurry. This is partly due to the miniscule size of these particles. Nonetheless, there are uranium mines such as the one managed by Energy Fuels Resources, Inc. that have removed waste after processing ore. Moving forward, it is critical to set proper processing, disposal, and long-term storage of any mined waste under the regulation of the Environmental Protection Agency, Atomic Energy Act, and Nuclear Regulatory Commission.