

Climate change: critical minerals

MCC global partners share how their communities are being adversely affected by a changing climate. In order to reduce the greenhouse gas emissions that cause climate change, countries such as the U.S. must enact policies that work to phase out fossil fuel-reliant energy and move to renewable sources such as solar and wind power. Such policies, however, open the door to an often-overlooked problem: the dependence of clean energy systems on critical minerals. **The rapid transition to clean energy could create unforeseen environmental and social costs with the extraction of these minerals.**

Terms

Critical minerals: A mineral necessary for the manufacture of high technology, national defense or green growth-related industries with potential for disruptions to the supply chain.

Rare earth elements (REEs): A relatively abundant group of 17 elements composed of scandium, yttrium, and the lanthanides.

Hardrock mining: A surface or underground operation to extract hardrock minerals, which includes base metals, precious metals and industrious minerals.



MCC Photo/Ted Oswald

Key critical minerals used in renewable energy components

Lithium-ion batteries	cobalt, lithium, nickel, manganese
Electric vehicles	rare earths (neodymium and dysprosium)
Solar photovoltaics	cadmium, indium, gallium, selenium, silver, tellurium
Wind power	rare earths (neodymium and dysprosium)
All renewable technologies	aluminum and copper

Source: Earthworks (2019)

General Mining Act of 1872

Mining on public land in the U.S. is still governed by a law signed by President Ulysses S. Grant more than 150 years ago, designed to accelerate westward expansion and push indigenous communities off their land.

Also in 1872 . . .

- Susan B. Anthony was fined for voting
- Yellowstone became the first national park
- Mining was done with a pickaxe

Learn more

Earthworks
earthworks.org/campaigns/mining

EarthJustice
earthjustice.org/blog/2022-may/critical-minerals-mining-reform

Maryknoll Office for Global Concerns
maryknollogc.org/resources/newsnotes/mining-renewable-energy

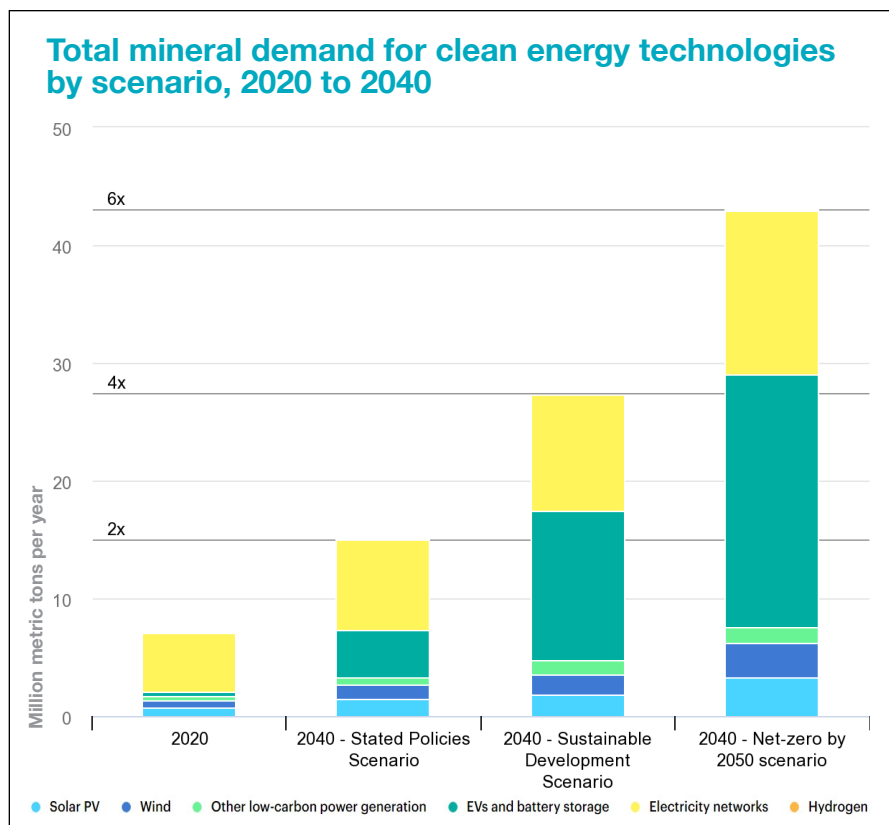
Top photo: A worker at an artisanal mine in Lakwev, Haiti.

While recycling and reuse are important, sourcing critical minerals will require mining to meet demand. By 2040, mining is expected to increase sixfold over current production. **Mining for critical minerals can lead to human rights abuses and environmental degradation, especially considering the current lack of regulation in the U.S.** While domestic and global mining can provide jobs and tax revenue, governments and corporations must take steps to reduce the potential for corruption, pollution and exploitation.

What you can do

- **Contact your members of Congress and the White House** to call for changes to the way critical minerals are mined, imported and recycled.
- **Wait to upgrade** items such as electronics and cars.
- When you do need to upgrade, recycle. Information on recycling electronics can be found at [epa.gov/recycle/electronics-donation-and-recycling](https://www.epa.gov/recycle/electronics-donation-and-recycling).
- If you are able, **use public transportation or ride a bicycle** to reduce reliance on both gas-powered and electric vehicles.

ClimateActionForPeace.com



IEA (2021) The Role of Critical Minerals in Clean Energy Transitions, [iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions](https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions). All rights reserved.

Policy recommendations

U.S. Congress

Support the Clean Energy Minerals Reform Act, H.R.7580 / S.4083.

- This bill would add environmental standards, require consultation with indigenous communities prior to mining, and establish a mining royalty to fund clean-up projects.

Support the Battery and Critical Mineral Recycling Act, S. 1918.

- Due to the expected future demand, responsible mining for critical minerals will be essential. Better systems and incentives for recycling could recover several minerals at rates of nearly 90%.

Administration

- Rejoin the Extractive Industries Transparency Initiative as an implementing member to promote U.S. engagement in international mining transparency
- Appoint a director to the Office of Surface Mining Reclamation and Enforcement to oversee the clean-up of pollution from abandoned mines.

Sources: Cornell Law School, Earthworks, Earthjustice, International Energy Agency, U.S. Geological Survey