



# MINING MINNESOTA™

RESPONSIBLE DEVELOPMENT of NATURAL RESOURCES



## RESPECT THE RESOURCE. MINE & RECYCLE.

Advancing and sustaining clean energy technologies in accordance with the Paris Agreement will require a complete transformation of the U.S. economy, beginning with our transportation and energy infrastructure. We must shift from a linear economy to a circular one supported by greater amounts of reuse and recycling of critical materials such as copper, nickel and cobalt.

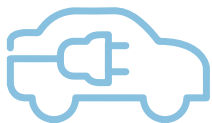
What is driving demand for critical minerals and materials, including copper, nickel, cobalt, platinum and palladium? On a federal level, the Inflation Reduction Act (IRA) and the Infrastructure Investment and Jobs Act (IIJA) are both accelerating the U.S. energy transition. On a state level, Minnesota's 100% Clean Energy by 2040 goal is increasing investment in minerals-dependent technologies.

### MORE EVS, MORE MINERALS

According to the U.S. Department of Energy, electric vehicles (EVs) made up 0.5% of all light-duty vehicles registered in Minnesota in 2022. The number has increased steadily throughout the past few years, and these registrations will continue to rise as charging infrastructure is improved statewide, and consumers gain confidence in the technology. Increasing demand for EVs and EV charging stations will lead directly to increased demand for the minerals required to build them.

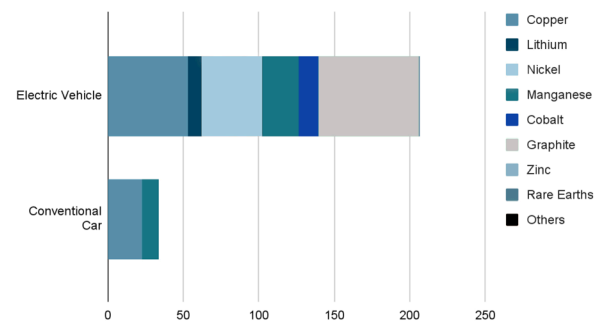
By 2040, recycling copper, lithium, cobalt and nickel from spent batteries could reduce the supply needed for these minerals by around 10%.<sup>1</sup> While recycling materials already in circulation is a great way to decrease our environmental impact, metal recycling alone is not enough to meet ever-increasing demands.

The fact remains: even if recycling rates reach 100%,<sup>2</sup> we will still require raw materials.

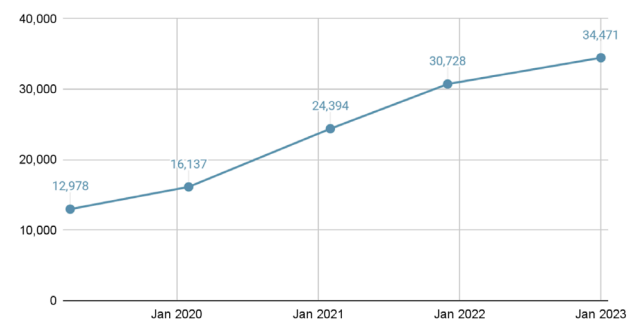


**EVs require  
2.5X  
as much copper  
as conventional cars.<sup>3</sup>**

### Minerals Used in EVs vs. Conventional Cars<sup>4</sup>



### EVs in Minnesota<sup>5</sup>



<sup>1</sup> The International Energy Agency's "The Role of Critical Minerals in Clean Energy Transitions"

<sup>2</sup> World Bank

<sup>3</sup> The International Energy Agency's "The Role of Critical Minerals in Clean Energy Transitions"

<sup>4</sup> <https://www.iea.org/data-and-statistics/charts/minerals-used-in-electric-cars-compared-to-conventional-cars>

<sup>5</sup> <https://mn.gov/puc/activities/economic-analysis/electric-vehicles/s>

## WE CAN'T RECYCLE OUR WAY TO A GREEN ENERGY FUTURE

According to the International Energy Agency, 775 million people around the globe live without electricity. As our world steers towards a clean energy future, it's critical that we broaden our view beyond our own needs in Minnesota and recognize that the world is in competition for minerals that have been mined responsibly.

This is about more than EVs and charging stations. Across the globe, powerlines need to be upgraded or newly installed to support the greater demand from a growing population. The electricity coursing through these powerlines will need to come from newly developed mineral-dependent clean energy sources—like wind or solar installations—that are often not located near the final users.

Capturing electricity from the sun or wind and transporting it into homes and vehicles requires new and extensive investments in copper-dependent technologies. Once these technologies are in place, the metals are locked in for decades and unavailable for reuse.

## MEETING GLOBAL DEMAND

The world demands critical minerals, and there are only two ways to get them: mining and recycling. Both are important and valuable. Unfortunately, the opportunities for recycling simply are not sufficient to meet demand. Recycling facilities require extensive investment, environmental protection and permitting to ensure metals are brought back into circulation safely and efficiently. Plus, because many metals can be reused nearly infinitely, we must also procure new raw materials.

## THE MINNESOTA DIFFERENCE

Life depends on metals and minerals, and responsible mining is essential for a green economy. Recycling is critical, but recycling alone cannot produce the amount of material needed to build clean energy and infrastructure. Minnesota's world-class deposits should be part of a holistic approach to obtaining the minerals and metals we need. The vast majority of the US domestic resources of nickel and cobalt and significant portions of the nation's copper supply are located in Minnesota's deposits. We should not export our jobs and environmental conscience to mines in foreign countries with few protections for workers or the environment. We should mine here, supplying needed materials with protection for workers and the environment.

Critical mineral requirements are estimated to increase by

**28%**   
year over year.

 Copper is  
**100%**  
recyclable.

It can be used over and over without degrading, but **70%** of the copper produced in the last 100 years is still in use.

In 2018, the EPA estimated the recycling rate for nonferrous metals was

**68%** 

## WE MUST PROCURE NEW RAW MATERIALS. WE MUST MINE.

MiningMinnesota trusts that copper, nickel, cobalt and platinum group metals can be mined safely and responsibly in Minnesota. We have the resources. We have the workforce. We have regulations in place to protect and improve our environment during project exploration, operation, closure and reclamation. A greener future begins in Minnesota.



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