

# Twin Metals Minnesota Poised to Help Meet Global Demand of Strategic Metals

Rising energy consumption, coupled with the rapid industrialization of the world's largest developing countries and a burgeoning world population, highlight the urgency for ambitious climate action.

Meeting the growing energy demands depends on an aggressive adoption of more sustainable, clean-energy practices worldwide.

**Global population is expected to hit nearly 10 billion by 2050.**

**840 million people currently lack electricity and will need to be considered as part of any low-carbon transition.\***



Transitioning to a green economy and tackling climate change is one of the Biden administration's top priorities.

This shift from traditional fossil fuels to renewable energy technologies — wind, solar, electric vehicles, and more — is driving significant increases in the need for strategic minerals like copper, nickel, cobalt, and platinum group metals that can only be mined to meet the demand.

Strategic minerals are a key part of the supply chains for industries including military, transportation, technology and healthcare. The global COVID-19 pandemic has shown the dangers of overreliance on foreign sources for control of crucial supply chains.

Sourcing these minerals domestically is imperative, not only for U.S. economic security, but also for global social justice implications.

If we don't mine domestically, we'll be forced to continue to rely on sourcing these metals from overseas locations that can't guarantee acceptable environmental and humanitarian standards. These locations also often rely on dangerous labor conditions and use child labor, including children as young as seven years old.

Minnesota also has some of the highest environmental standards in the world that any project must meet in order to proceed — for air quality, water use, waste management, visuals, noise and more.

A Tesla Model 3 contains around 30 kilograms of nickel.

## Minerals—essential for low-carbon energy technologies:



Geothermal



Solar



Hydro



Wind



Energy storage

The U.S. Forest Service has specifically designated mining as a desired activity in areas of the Superior Natural Forest (SNF), including the proposed mine site for the Twin Metals Minnesota project.



# WHY TWIN METALS

Twin Metals spent 10 years designing a modern 21st century underground mine to meet or exceed all environmental standards.

In late 2019, we submitted our underground mine plan to state and federal agencies and entered the regulatory review process. This next step is a robust period of scoping and environmental review, including engagement with agencies, tribal governments and the public. This nonpartisan process is critical in reviewing the science and facts behind the project to determine if it can meet the environmental standards in place.

Existing law prohibits the degradation of the Boundary Waters Canoe Area Wilderness. This is even more reason to let the established regulatory procedures continue to assure a fair, predictable process built on scientific and technical evidence, and not on partisan political agendas.

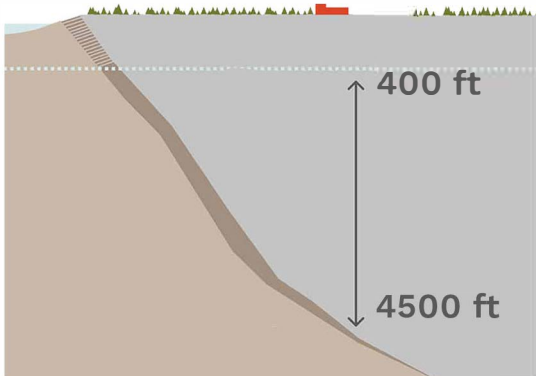
**2 million feet of deposit core drilled and studied.**

**Multiple opportunities for public input throughout the environmental review and permitting processes.**

**The project is located 20 river miles upstream from the nearest point of the Boundary Waters Canoe Area Wilderness.**

**To ensure this is the most environmentally safe project possible, Twin Metals is using the best technology available.**

**Mining will take place between 40 stories underground to nearly a mile deep.**



## Project Details:

- Limited surface impact, no acid rock drainage, no discharge of process water and no toxic waste.
- Use of filtered tailings, or “dry stack.” In 2020, more than 140 NGOs endorsed this as the best available technology.
- There will be no permanent tailings pond or dam on site. So there’s no risk of dam failure.
- Will be built entirely with a union workforce. Construction will generate several million union labor hours, on par with a major sports stadium project.
- Once operational, will create 750 direct jobs, 1,500 non-mining spinoff jobs.

As the U.S. is forced to rethink its sourcing strategy, northeast Minnesota will need to play a significant role in our country’s transition to a green economy, help lessen our reliance on foreign sources, and ensure we are sourcing these critical minerals in responsible and environmentally safe ways.



Twin Metals is the right company, with the right expert-backed project, to address these needs and demands. The company looks forward to proceeding through the science-backed regulatory process to prove it can safely mine for these needed minerals while protecting the environment. Twin Metals is a subsidiary of Antofagasta plc, one of the world's largest copper producers leading the way in best practices for sustainable and responsible mining.

•The World Bank 2020. “Minerals for Climate Action; The Mineral Intensity of the Clean Energy Transition:” <http://bit.ly/3pYXbjK>, “Is Nickel The New Gold? Tesla CEO Elon Musk’s Comments Inspire Interest In Nickel,” Clean Technica, Aug. 25, 2020: <http://bit.ly/2MBUYw0>, Amnesty International, Afrewatch. “Is my phone powered by child labour?”: <http://bit.ly/3rp12ZZ>, USGS National Hydrography Dataset (NHD) flow network and the Public Waters Basins from the MNDNR