

# CLIMATE TRACE ERS Spotlight

## Electrifying Mining Equipment

**Copper Mountain Mine**, British Columbia, CAN  
*14.6M tonnes of copper ore annually*

Mineral Extraction

### Annual Emissions Reduction Potential

- Total Project Impact: 9,400 tCO<sub>2</sub>e
- ERS Global Potential: 90 MtCO<sub>2</sub>e



## How Mining Equipment Electrification Reduces Emissions

**Existing Practice:** Mineral extraction relies heavily on diesel-powered vehicles and machinery, particularly haul trucks, loaders, and drilling machinery. These operations are highly energy-intensive, with equipment operating under heavy loads and variable duty cycles, resulting in substantial fuel consumption and greenhouse gas emissions from diesel combustion.

**A Potential Solution:** Electrifying mining equipment can reduce direct greenhouse gas emissions by replacing diesel-powered haulage and machinery with battery-electric alternatives. This requires either connecting operations to the local grid or deploying on-site renewable generation to supply charging infrastructure. Fleet-wide electrification is possible but depends on factors such as the scale of operations, vehicle duty cycles and range requirements, fleet size, and available charging capacity.

## Copper Mountain's Low-Carbon Mining Equipment

The Copper Mountain Mine primarily produces copper but also mines gold and silver. As a part of its mission to reach net zero greenhouse gas (GHG) emissions, the mine has implemented electrification measures including replacing diesel-powered water pumps and installing electric trolley-assist systems that allow its very large haul trucks with hybrid powertrains to draw power from overhead electric lines instead of running solely on diesel. Powered by clean hydroelectricity from the British Columbia grid, the trolley-assist system reduces haul-truck emissions by up to ~90% on electrified segments. This government-supported electrification project is expected to reduce around 9,400 tonnes of CO<sub>2</sub>e annually.



*Credit: Google, ©2026 Airbus, CNES, Maxar Technologies, Province of British Columbia*

### Impact of this project (tonnes CO<sub>2</sub>e/year)

Reduced at this location	9,400
Reduced outside this location*	No change
<b>Total reduced</b>	<b>9,400</b>

*\*No additional details*

**This solution of the electrification of mining equipment reduces emissions at the source by replacing diesel-powered equipment with equipment powered by clean electricity generation.**

*Note: Annual emissions reduction potential at the source is estimated by the Government of Canada. This spotlight was prepared in February 2026 using publicly available information. To learn more about Emissions Reduction Solutions (ERS) in the copper mining sector, please [visit our website](#), [read our white paper](#), or [contact the Climate TRACE partnerships team](#).*