

ELECTRIC VEHICLES DEPEND ON MINING

Mineral demands are expected to grow as much as 1,000% by 2050.¹ Much of this demand will come from automakers, which plan to spend \$300 billion globally to produce new electric vehicles (EVs) over the next decade.² Our made-in-America EV future can also be a mined-in-America future, with U.S. mining ready to meet much of this need while providing high-paying jobs and maintaining strong environmental protections.



EVs as a share of global car sales³



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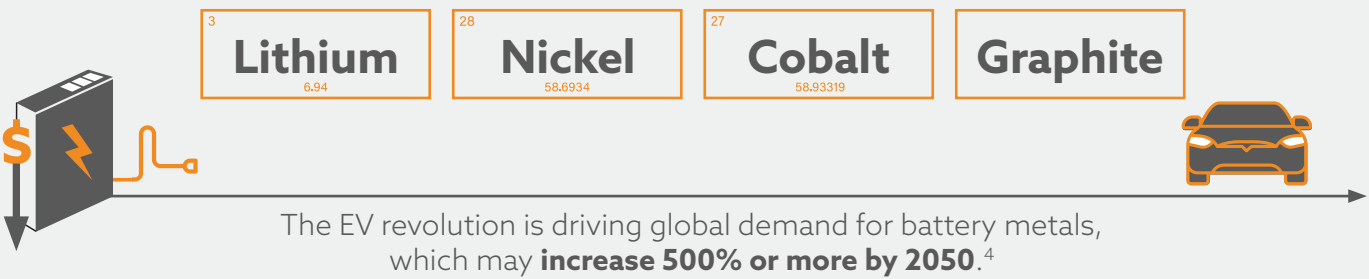
+EV models on the world's roads by 2022.³

MINERALS OF THE EV REVOLUTION

EVs require **2x the number of metals** compared to internal combustion engines.

BATTERY MINERALS

Lithium ion batteries are at the heart of EVs.



8X
Global lithium production would have to grow 8x just to meet Tesla's needs by 2030.⁵



10X
Global demand for nickel is expected to increase tenfold by 2025.⁶



~60%
EV battery consumption will account for ~60% of all cobalt demand in 2020.⁷



POWERTRAIN MOTORS
EV motors are smaller and more efficient than induction motors but require more minerals.⁸



EVs can use nearly 2x the amount of silver compared to gas powered cars.¹⁰



By 2040, EVs will require 3X the amount of aluminum compared to in 2025.



EVs use 183 lbs of copper vs. 18-49 for gas powered vehicles.⁹
By 2030, the EV sector will require 250% more copper compared to current demands.¹⁰



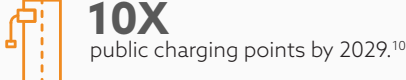
WIRING
• EVs contain more than a mile of copper wiring.¹¹
• Gold is essential to vehicle electronics, circuit boards and infrared sensors that enable navigation, safety and other features.¹²



1MI.



EV INFRASTRUCTURE
EV chargers and their power supply require additional metals like copper, aluminum, gallium and zinc. 1 million public charging points are installed globally.³



EV MARKET GROWTH DEPENDS ON SUPPLY CHAIN SECURITY

Despite its estimated \$6.2 trillion in mineral reserves, U.S. mineral import-reliance continues to grow. In 2020, the U.S. was 100% import-reliant for 17 key minerals and more than 50% import-reliant for 29 additional minerals.¹³



100% import-reliant for key metals used in EVs like graphite, manganese and rare earths.¹³

The U.S. must strengthen its mineral supply chains and encourage greater domestic production to lead the EV revolution.



China currently controls the production of:¹⁴

- 80%** Rare Earth Elements
- 70%** Graphite/Graphene
- 59%** Lithium
- 58%** Vanadium
- 36%** Cobalt



In 2020, **107 of the 142** lithium-ion battery megafactories under construction worldwide were located in China. **Just nine were planned for the United States.**¹⁵

With commonsense reforms, U.S. mining can deliver EV minerals and create high-paying jobs. Here's how:

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Embrace efficient permitting processes



Ensure fiscal policies encourage investment



Recognize the role of federal lands in reducing import reliance



Acknowledge made-in-America includes mined-in-America



Voters Support Building an American EV Supply Chain:

87%
of voters believe our material supply chains should use minerals sourced from U.S. mines.¹⁶

Sources

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