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.

2020 3%

2040 +60%

EVs as a share of global car sales[3]

1000% Mineral demands are expected to grow as much as 1,000% by 2050.[1]

500 +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.

3 Lithium 6.94 | 28 Nickel 58.6934 | 27 Cobalt 58.93319 | Graphite

The EV revolution is driving global demand for battery metals, which may **increase 500% or more by 2050**.[4]

Lithium — **8X** Global lithium production would have to grow 8x just to meet Tesla's needs by 2030.[5]

Nickel — **10X** Global demand for nickel is expected to increase tenfold by 2025.[6]

Cobalt — **~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]

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

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

Copper — 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]

Gold

Copper — 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]

10X public charging points by 2029.[10]

50MM private stations by 2029.[10]

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

Lithium — 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:

Here's how:

- 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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